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International Convention Centre
Birmingham**



**programme of
abstracts**

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Thursday 14 April 2005

Platform Presentations

Session A.2

Bone, Muscle and Rheumatology
Cardiovascular
Falls, Fractures and Trauma
Health Services Research
Incontinence

Session C.2

Cardiovascular
Health Services Research
Stroke and Mental Health

Session E.2

Cardiovascular
Falls, Fractures and Trauma
Health Services Research
Law and Ethics
Stroke and Mental Health

PLATFORM PRESENTATIONS

1

PREVALENCE AND PROFILE OF COGNITIVE IMPAIRMENT AND DEMENTIA IN PATIENTS WITH CAROTID SINUS SYNDROME (CSS) AND CAROTID SINUS HYPERSENSITIVITY (CSH)

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Introduction

The prevalence of CSS/CSH is high in dementia. We hypothesised that repeated hypotensive episodes are a cause of cognitive impairment and dementia. Our objective was to investigate the prevalence and profile of cognitive impairment and dementia in patients with syncope and falls due to CSS/CSH compared with CSS/CSH-free controls.

CSS: >3 seconds asystole and/or a >50mmHg fall in systolic blood pressure during carotid sinus massage in patients with recurrent syncope or falls for whom abnormal haemodynamic response was attributable cause of events. CSH: Abnormal haemodynamic responses, but not clearly the attributable cause of symptoms.

Methods

397 patients (mean age 79 yrs) with CSS/CSH had clinical and neuropsychological evaluation - MMSE, CAMCOG and computerised CDR test battery and DSMIIIR (dementia criteria). Patients were compared to 146 healthy, CSS/CSH-free controls (73yrs).

Results

Overall, 14% of patients and 0% controls had dementia (DSMIIIR criteria). Excluding those with dementia, 16% of patients and 4% of controls had cognitive-impairment-no-dementia (CIND). Dementia-free patients with CSH were worse than controls for CAMCOG total score ($p < 0.001$), CAMCOG executive function ($p < 0.001$) and CDR power of attention ($p = 0.006$) after adjustment for age, education, gender, residential status, cardiovascular risk factors and medication.

Conclusions

Cognitive impairment and dementia is prevalent in patients with falls or syncope due to CSS/CSH and their neuropsychological profile was consistent with watershed lesions. Early intervention for symptoms of CSS/CSH may modify/prevent cognitive decline and dementia.

2

THE WINCHESTER FALLS PROJECT: A RANDOMISED CONTROLLED TRIAL OF SECONDARY FALLS PREVENTION

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Introduction

Multifactorial interventions can reduce falls (Gillespie LD et al, The Cochrane Library; 1:2003). The optimum organisation of services for falls prevention is not clear (Swift C, BMJ 2001; 322:855-57). We designed a randomised controlled trial to assess the effectiveness of two different interventions to prevent further falls in recurrent fallers identified in the community.

Methods

Participants were aged 65 years or over, living in the community and had had 2 or more falls in the previous year. 18 general practices were randomly allocated to one of three groups. The primary care group received a nurse-led assessment in the community, targeted at identified risk factors. The secondary care group underwent a structured multidisciplinary assessment in a day hospital. The control group received usual care. Follow up period one year.

Results

505 participants were recruited and follow-up completed in 83% (405). The mean age of participants was 82 years. The proportion of participants who fell again was significantly less in the secondary care group (71.7%, 134/187) compared to the control group (82.4%, 122/148), OR 0.46 (95% CI 0.32-0.68, $p < 0.0001$). The primary care group showed similar results to the control group (86.2%, 112/130), OR 1.22 (95% CI 0.61 - 2.46), $p = 0.578$.

Conclusions

A secondary care structured multidisciplinary assessment of recurrent fallers significantly reduced the risk of further falls, but a primary care based targeted assessment did not. This provides important information for service development.

PLATFORM PRESENTATIONS

3

CLINICAL CHARACTERISTICS OF CAROTID SINUS SYNDROME (CSS) AND CAROTID SINUS HYPERSENSITIVITY (CSH)

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Introduction

No large observational study of patients with Carotid Sinus Hypersensitivity (CSH) has been published. In the largest series to date of 64 patients with CSS, the syndrome was more common in women, associated with a high prevalence of hypertension, and subtypes (vasodepressor (VD), cardioinhibitory (CI) and mixed) occurred with equal frequency (McIntosh et al, AJM 1993; 203).

Methods

The clinical details of all consecutive patients with CSS/CSH assessed at a single syncope service over 12 years were analysed. CSH was defined as $\geq 3s$ asystole (CI), ≥ 50 mmHg fall in SBP (VD) or both (mixed) in response to carotid sinus massage. CSS = CSH in syncopal patients.

Results

Of 1504 patients (mean age 75; s.d.10) with CSH/CSS 890 (59%) were female, 739 (49%) had syncope, 476 (31%) had falls.

678 (45%) patients were VD/CSH, 427 (28%) CI/CSH and 399 (26%) mixed CSH. Symptoms were similar for each subtype. Hypertension was more common in patients with VD/CSH than in CI/CSH or mixed CSH ($p < 0.001$). Prevalence of atrial fibrillation, ischaemic heart disease, and cerebrovascular disease were similar within CSH type.

Conclusions

This study represents the largest cohort of CSH patients worldwide, and changes the current knowledge of the basic clinical characteristics of CSH: the proportion of females and VD/CSH cases is higher than previously reported and the subtypes of CSH present equally with falls or syncope.

4

URINARY INCONTINENCE AND FALLING

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Background

Falls and incontinence are both common in older people. Weekly or more frequent urge incontinence is independently associated with falling (Brown J Am Ger Soc 2000;48:721-725). This study was performed to determine the association of fall with other types of urinary incontinence (UI).

Method

The postal questionnaires sent out to 40,000 people aged over 40 living in Leicestershire for the MRC Incontinence Incidence study included questions on both urinary symptoms and falls in the previous 12 months. The responses for the 5474 patients aged over 70 years were analysed.

Results

The mean age of the people surveyed was 76.9 years. People who had UI (both stress and urge incontinence) were more likely to fall than those who were continent (Table 1). Female incontinent people were significantly more likely to fall than males with incontinence ($p < 0.0001$).

		History of a fall in the last year	No falling last year	Significance (Chi-square test)
Stress incontinence only N=3611(66%) Missing=1863(34%)	Yes 223(4.1%)	85(1.6%)	138(2.5%)	P=0.007
	No 3388(61.9%)	1016(18.6%)	2372(43.3%)	
Urge incontinence only N=3893(71%) Missing=1581(28.9%)	Yes 505(9.2%)	199(3.6%)	306(5.6%)	P<0.0001
	No 3388(61.9%)	1016(18.6%)	2372(43.3%)	
Leak urine without realising only Number=3434(62.7%) Missing=2040(37.3%)	Yes 46(0.84%)	15(0.27%)	31(0.56%)	P=0.404
	No 3388(61.9%)	1016(18.6%)	2372(43.3%)	

Conclusion

The association of falls with stress incontinence as well as with urge incontinence is a new finding which merits further investigation.

PLATFORM PRESENTATIONS

5

CAN THE SHERBROOKE POSTAL QUESTIONNAIRE PREDICT WHO WILL REQUIRE COMPREHENSIVE ASSESSMENT IN THE SINGLE ASSESSMENT PROCESS?

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Introduction

The Canadian 6 item Sherbrooke questionnaire is recommended for case-finding and the Minimum Data Set for Home Care (MDS-HC) is accredited for overview/comprehensive assessment within the single assessment process. We evaluated their use in primary care.

Methods

945 community-dwelling patients aged 70 + registered with one practice were posted the Sherbrooke Questionnaire. All patients with 4-6 positive answers were offered an overview assessment with comprehensive assessment where triggered by the MDS-HC protocol. Half of those scoring 2 and 3 were randomly similarly assessed.

Results

863 (91.3%) patients replied. 507(53.6%) triggered further assessment.

Table: Sherbrooke scores of patients requiring further assessments

Score (No. of respondents)	Patients offered overview assessment	Overview assessment only	Overview and comprehensive assessments	Refused further assessment/ no reply	Died before assessment
6 (n=7)	7	1 (14.3%)	5 (71.4%)	1 (14.3%)	0
5 (n=33)	33	4 (12.1%)	13 (39.4%)	12 (36.4%)	4 (12.1%)
4 (n=73)	73	8 (11.0%)	21 (28.8%)	41 (56.2%)	3 (4.0%)
3 (n=152)	76	23 (30.3%)	9 (11.8%)	40 (52.6%)	4 (5.3%)
2 (n=219)	107	32 (29.9%)	8 (7.5%)	61 (57.0%)	6 (5.6%)
Missing data (n=23)	11	0	0	10 (90.9%)	1 (9.1%)

Conclusions

Patients with higher Sherbrooke scores were more likely to require comprehensive assessment, and those scoring 2 required very few. We propose a cut-off score of 3 or more for further assessment in Britain. Many patients refused further assessment, seeing little personal benefit.

6

GERIATRIC ASSESSMENT UNITS

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Introduction

Emergency admission rates to hospital for the over 65s continue to grow year on year. The ideal model of in-patient care for this frailer older population remains uncertain.

Methods

We conducted a systematic literature search of Cochrane controlled trials register, DARE, MEDLINE, CINAHL and EMBASE. In addition we searched the references of located articles and conducted a limited hand search of selected relevant journals and conference proceedings.

Results

We were able to identify 21 randomised controlled trials (10,577 participants) of in-patient geriatric assessment for a mixed elderly population.

We found that in-patient geriatric assessment was associated with an increased chance of being alive and at home at the end of scheduled follow up (OR 1.16 95% CI 1.04 - 1.30). For every 100 patients treated by inpatient geriatric assessment, an extra 3 (95% CI 1-6) would be alive and in their own homes in comparison to general medical care, however mortality alone was not improved (OR 0.96 95% CI 0.87-1.05). The evidence of benefit was predominantly for care in geriatric assessment wards, with no good evidence for improved outcomes from geriatric consultation teams.

Conclusions

In-patient geriatric assessment is associated with an increased likelihood of being alive and at home at follow up. The evidence of benefit appears to favour geriatric assessment wards with no clear evidence of benefit from geriatric consultation teams.

PLATFORM PRESENTATIONS

7

CONSUMER INVOLVEMENT IN THE DESIGN OF THE STROKE OXYGEN STUDY

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Introduction

The aim of this public consultation was to explore the views of stroke patients and carers on the design, consent procedures, and follow-up arrangements of a study of oxygen supplementation after acute stroke.

Methodology

Focus group meetings were undertaken with "Strokes R Us" (The Young Stroke Group in Stoke-on-Trent), and the "Dysphasia Support Group" from Stafford and Cannock respectively. The format of each meeting was: presentation of a summary of the proposed study followed by free discussion of its details and circulation of a questionnaire.

Results

Seventy-three individuals (49 stroke patients and 24 carers, mean age 64 (range 31-86) years attended the meetings. Seventy percent completed the questionnaires. 98% considered the research question worthwhile, and 98% considered the suggested outcome measures (Rankin, Barthel, Euroqol, Nottingham Extended Activities of Daily Living) relevant. The discussions highlighted that memory, mood, sleep, and speech were important outcome measures for patients and carers. Seventy-five % felt that a family member should give consent on behalf of incompetent patients and 92% would allow a doctor not involved in the study to decide if consent/assent could not be obtained. Eighty percent preferred a clinic appointment, while 20% preferred a postal questionnaire for follow-up. Respondents also suggested a separate questionnaire for carers.

Conclusion

Many of the outcomes suggested by consumers (patients and carers) are not covered by outcome scales most commonly used in stroke trials.

8

GRACE MODEL, TIMI RISK SCORE OR ECG AND TROPONIN: WHICH BEST PREDICTS OUTCOME IN UNSELECTED AND OLDER PATIENTS WITH SUSPECTED ACUTE CORONARY SYNDROME?

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Background

Appropriate management of acute coronary syndrome (ACS) relies on risk stratification to target more aggressive intervention to those likely to have a major acute coronary event (MACE). Older patients with ACS have worse outcomes than their younger counterparts. There are few data on risk stratification strategies in older people.

Methods

Consecutive admissions with suspected ACS over a six-month period were prospectively included in an audit database. We assessed the ability of two popular risk stratification models, the TIMI Risk Score and the GRACE model for in-hospital mortality, to predict death or MACE. Follow up using computerised clinical information systems was for a mean 109 days. We compared their performance with a simple tool based on ECG changes and troponin levels alone using area under receiver operator characteristic curves (c-statistic). We then performed sub-group analysis in those aged over 65.

Results

Data completeness: 643 (74%) of 869 cases.

Endpoint	Method	All cases (n=643) c statistic (95% CI)	Aged>65(n=357) c-statistic (95%CI)
Deaths n=49	GRACE	0.76 (0.70,0.82)	0.64 (0.56, 0.74)
	TIMI	0.60 (0.51,0.68)	0.50 (0.41,0.60)
	ECG & Troponin	0.64 (0.55,0.72)	0.60 (0.51,0.69)
MACE n=87	GRACE	0.70 (0.64,0.76)	0.70 (0.62,0.77)
	TIMI	0.66 (0.60, 0.73)	0.59 (0.51,0.67)
	ECG & Troponin	0.70 (0.60,0.77)	0.60 (0.59,0.74)

Conclusions

All three strategies have similar abilities to predict MACEs. The GRACE model generally performed best but the only statistically significant difference was with predicting deaths compared with the TIMI Risk Score.

PLATFORM PRESENTATIONS

9

EARLY PRESENTATION OF GAIT DISORDER IS INDICATIVE OF NON - ALZHEIMER'S DEMENTIA

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Introduction

The presence of a gait disorder in early dementia is an exclusion criterion in the diagnosis of Alzheimer's disease (AD) but this has not been prospectively studied in comparison with Dementia with Lewy bodies (DLB) and there have been few comparisons with Vascular dementia (VAD).

Methods

Two hundred and forty five participants over 65 years of age (40 AD, 39 VAD, 46 Parkinson's diseased dementia (PDD), 32 DLB, 46 Parkinson's disease (PD) and 42 controls) were examined for the presence of gait and balance disorders using Nutt's classification (1).

Results

Gait and balance disorders were most common in PDD (95.7%), DLB (81.5 %), and VAD (74.4%). Gait and balance disorders were less common in AD (37.5%) compared with VAD, PDD and DLB (all $P < 0.001$). In mild AD (CAMCOG > 65), gait disorders were no more common than in healthy controls. If a gait disorder was present in mild dementia (CAMCOG > 65), this was diagnostic of non-Alzheimer's dementia with sensitivity of 80% and specificity of 100%.

Conclusion

The findings support the inclusion of clinically abnormal gait as an exclusion criterion for the diagnosis of Alzheimer's disease. The method used to examine gait is easily clinically applicable and does not require costly equipment. It may therefore be useful to clinicians as a tool in the differential diagnosis of early dementia.

Nutt JG, Marsden CD, Thompson PD Neurology 1993; 43(2):268-279.

10

INCIDENCE, RISK FACTORS, AND CLINICAL OUTCOMES OF CONTRAST INDUCED NEPHROPATHY AFTER PERCUTANEOUS CORONARY INTERVENTION IN ELDERLY PATIENTS

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Introduction

Contrast induced nephropathy (CIN) has been known to be a risk factor of significant in-hospital and long-term adverse outcomes. However, little is known regarding the clinical characteristics and prognostic implications of nephropathy in elderly patients who underwent percutaneous coronary intervention (PCI).

Methods

With a retrospective analysis of the clinical and angiographic data, we determined the incidence, risk factors, and prognostic implications of CIN (defined as an increase in serum creatinine [Cr] > 0.5 mg/dL from baseline) after PCI. Results: Of 360 patients, 16 (4.4%) patients experienced CIN and 5 (1.4%) patients required temporary renal replacement therapy (hemodialysis or hemofiltration). Patients with baseline Cr ≥ 1.4 mg/dL and diabetic patients had a significant risk of CIN. In multivariate analysis, CIN was significantly associated with baseline renal dysfunction and diabetes showed marginal significance in developing CIN. Twenty-five percent of patients with CIN died during the index hospitalisation compared with only 1.2% of patients without CIN ($P < 0.001$). Furthermore, the significant impairment of renal function was identified in patients with the events of CIN at six-month follow up.

Conclusions

In elderly patients who are undergoing PCI, diabetic patients with baseline renal impairment are at higher risk of CIN. Furthermore, CIN was highly correlated with death during the index hospitalisation.

PLATFORM PRESENTATIONS

11

THE EFFECT OF VITAMIN AND MINERAL SUPPLEMENTS ON INFECTIONS AND COGNITIVE FUNCTION IN OLDER PEOPLE: A RANDOMISED DOUBLE-BLIND, PLACEBO-CONTROLLED TRIAL

D G SEYMOUR FOR THE MAVIS TRIAL GROUP

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Introduction

Nutritional deficiencies may exacerbate the risk of infection and decline in cognitive function in older people. We undertook a randomised trial to ascertain whether use of a vitamin and mineral supplement for one year reduced morbidity from infections and improved cognitive function.

Methodology

Participants (n=910) aged ≤ 65 years and not taking supplements, were recruited from general practices in Grampian, Scotland. Participants were randomised to a commercially available multi-vitamin and mineral supplement or matching placebo. The criterion for statistical significance was based on a two-sided test with $2P \leq 0.05$.

Results

The two groups were well balanced at trial entry. Only 13% reported stopping their tablets or were lost to follow-up. There was no significant effect in the supplemented compared to the control group for contacts with primary care staff for infection (879 versus 930; odds ratio 0.96, 95% CI 0.78 to 1.19), self reported days of infection (8072 versus 7871; odds ratio 1.07, 95% CI 0.90 to 1.27) or on the (mean) difference between groups for cognitive function; digit span forward (-0.07, 95% CI -0.31 to 0.16) and verbal fluency (0.84, 95% CI -0.34 to 2.01).

Conclusion

We found no statistically significant effect of supplementation. Our trial had few people aged over 85y (4%) or in institutional care (3%). We therefore cannot exclude the possibility that higher-risk populations may benefit.

This trial was funded by The Health Foundation.

12

THE RECORD TRIAL: A RANDOMISED DOUBLE-BLIND STUDY OF CALCIUM AND/OR VITAMIN D IN THE SECONDARY PREVENTION OF LOW TRAUMA FRACTURES

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Introduction

It is unclear if calcium and vitamin D are effective in the secondary prevention of fractures. We have therefore investigated the effect of calcium or vitamin D or both on the incidence of further fractures in men and women aged over 70 years with a low-trauma fracture.

Methods

We recruited 5292 participants from 21 centres, who were randomised to daily calcium (1g as carbonate), vitamin D₃ (800iu/20mcg), both, or placebo. The principal outcome was new low-trauma fractures, but other outcomes included health status, mortality, falls and adverse events.

Results

Participants were followed up for between 24 and 62 months. 698 (13.2%) had a further low-trauma fracture, including 183 hip fractures. There were no statistically significant differences between those allocated calcium and those not (331 (12.6%) vs. 367 (13.7%); HR 0.94, 95% CI 0.81 to 1.09); those allocated vitamin D and those not (353 (13.3%) vs. 345 (13.1%); HR 1.02, 95% CI 0.88 to 1.19); and those allocated both calcium and vitamin D versus placebo [165 (12.6%) vs. 179 (13.4%)]. No differences were detected in all reported fractures, X-ray confirmed fractures, hip fractures, death, falls or quality of life. Potentially serious adverse events were rare and did not differ between groups.

Conclusions

Our findings do not support the use of routine calcium and/or vitamin D supplementation for the prevention of further fractures in older people with a low-trauma fracture.

PLATFORM PRESENTATIONS

13

ENTERAL FEEDING IN END-STAGE DEMENTIA: A COMPARISON OF RELIGIOUS, ETHNIC AND NATIONAL DIFFERENCES

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Introduction

First stage AD patients usually develop an inability to feed themselves and to swallow. It has been observed that Israeli families more easily acquiesce to the practice of artificial nutrition and hydration and Israeli doctors are more likely to recommend it than their Canadian counterparts. We tested this observation by studying patients with end-stage dementia in a representative convenience sample of six LT hospitals in Israel and Canada.

Methodology

All long-term patients in six geriatric hospitals were surveyed. Those suffering from the final stages of dementia were assessed for gastrostomy or nasogastric tube use. Those who were assessed as end-stage were further analysed for the type of feeding utilised.

Results

Significant differences in the prevalence of tube-feeding were found between Canada (11%) and Israel (52.9%), with only 4.7% seen in Canadian non-Jewish institutions. Jewish-affiliated hospitals in Canada exhibited an intermediate rate of 19.6%. However, within the countries, wide differences in use were also found.

Conclusion

Despite the belief that tube feeding in end-stage dementia may be medically futile, the practice remains widespread in both Canada and Israel, with Israeli hospitals utilising the procedure much more frequently than their Canadian counterparts, especially compared to those hospitals with no Jewish affiliation. Further research should examine the effect of staff members' attitudes towards the use of enteral tube feeding in end-stage dementia.

14

KNOWLEDGE OF SWALLOW ASSESSMENT IN ACUTE STROKE AMONG MEDICAL STUDENTS AND JUNIOR DOCTORS

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Introduction

National guidelines recommend that stroke patients are assessed for risk of aspiration using a validated water swallow test. The gag reflex is invalid as a test of swallow. Previous studies report poor awareness of this among doctors. We sought to assess knowledge of swallow assessment among medical students and doctors in 2 teaching hospitals.

Methods

A structured questionnaire was directly administered to 71 junior doctors covering acute medical take-in and 28 fourth-year students. Questions included who should perform assessment and by what means, whether gag reflex is helpful and whether respondents were confident of their ability to assess swallow.

Results

Only 33% of doctors thought that they should be involved in swallow assessment. 31% chose gag as the initial assessment method, 65% believed that absent gag implied unsafe swallow and 39% thought that present gag implied safe swallow. 69% were not confident of their ability to assess swallow. Of those confident, 17% chose gag reflex as the initial test. Pre-registration house officers had poorer knowledge of swallow assessment than medical students (64% thought that present gag implied safe swallow, v 29% of medical students, $p=0.009$).

Conclusions

Almost a third of doctors responsible for acute medical admissions considered the gag reflex to be an appropriate test of swallow in acute stroke. This lack of knowledge may be detrimental to acute stroke patients and needs to be addressed.

HEART FAILURE AND DETERMINANTS
OF WHOLE BLOOD THIAMIN IN OLDER
ADULTS

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Introduction

Higher prevalence of thiamin deficiency (TD) in older adults with heart failure (HF) has been reported in developed countries, despite the introduction of thiamin fortification. Certainty of these findings and predictors of TD are not well studied. OBJECTIVES: To determine: thiamin levels in older adults with/without HF; the association between diuretic use and thiamin level in older adults with/without HF; the relationship between left ventricular (LV) function and thiamin level.

Methods

Cross-sectional study using sub-sample from the population-based Australian Capital Territory Heart Failure Survey. TD was determined by whole blood thiamin pyrophosphate (TPP) level corrected for haemoglobin using HPLC. LV function categories were defined by transthoracic echocardiogram: Control (n=197)- normal LV function; LVDD (n=49)- moderate to severe LV diastolic dysfunction with preserved LV systolic function; LVSD (n=47)- LV systolic dysfunction with LV ejection fraction (LVEF) <50%. PARTICIPANTS: 293 community-dwelling older adults living in Canberra, Australia, median age 74years (range 60-86), 40% female .

Results

There was a significant difference in mean TPP level between the LVSD and Control groups (2.00 ±0.52(SD) vs 1.72±0.40nmol/gHb; p<0.001). Higher LVEFs were associated with higher thiamin levels (r²=0.041, p<0.01). Factors associated with higher TPP level on multivariable analysis included LVSD, diuretic use, thyroid disease.

Conclusions

HF and diuretic use were not associated with TD. Higher LVEF is associated with higher thiamin levels in this population.

Poster presentations

BONES, MUSCLES & RHEUMATOLOGY

CARDIOVASCULAR

CLINICAL EFFECTIVENESS

Audit

Practice Development

Service Evaluation

Literature Review

DIABETES/CLINICAL

FALLS, FRACTURES & TRAUMA

HEALTH SERVICES RESEARCH

INCONTINENCE/GASTROENTEROLOGY

LAW & ETHICS

NEUROLOGY & NEUROSCIENCES

PSYCHIATRY, STROKE & MENTAL HEALTH

16

THE SECONDARY PREVENTION OF
OSTEOPOROSIS IN PATIENTS
ATTENDING FRACTURE CLINIC

N HUSSAIN, T SHAWIS

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Introduction

To investigate whether attendance to fracture clinic was utilized for identification and management of osteoporosis and falls.

Methodology

A retrospective study was conducted of 107 people who had attended fracture clinic during January - October 2003. Clinic records were checked for whether investigation and management for osteoporosis and falls was suggested.

Results

Of 107 patients, the age ranged from 50 - 94yrs, average age 68. The majority of patients were female 71 (66.4%). 22 Colles fractures were identified, 1 vertebral fracture and 8 neck of femurs, the rest were miscellaneous. 14 (13.1%) of the patients had a previously documented fracture. The majority of fractures were caused by falls 77 (72.0%), 45 of these falls were of an undetermined nature. Of these, 3 (6.7%) were referred for further investigation as to the cause. 2 (1.9%) patients were referred for investigation into osteoporosis. No patient was started on treatment. No patient's bone mineral density was known. 91 (85.0%) patients are currently not receiving treatment for possible osteoporosis. Of those on treatment, 3 (2.8%) were on calcium alone, 9 (8.4%) were on calcium and vitamin D, and 4 (3.8%) were on a combination of calcium, vitamin D and bisphosphonate.

Conclusion

Screening of patients in fracture clinic provides an opportunity to identify those who may benefit from treatment of osteoporosis and fall prevention. We are currently not adequately investigating, or treating such people.

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BONE MARKER STATUS IN HIP
FRACTURE PATIENTS IN
CORRELATION WITH BONE
DENSITOMETRY

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Introduction

Elderly patients are at high risk for Osteoporosis and vitamin D deficiency. Future fracture risk may be independently indicated by the presence of elevated biochemical bone markers or presence of vertebral fractures. This study looks at these factors and their influence in hip fracture risk.

Methods

76 patients (>65y) admitted with hip fracture underwent DXA and lateral spine assessment. Osteocalcin(OC), C-telopeptide(CTx), Parathyroid Hormone(PTH), 25(OH)D were performed within 48 hours and Creatinine Clearance(CrCl) estimated. Bone markers were available on 71 patients. Osteoporosis was defined as a T score of < -2.5 at the hip or spine.

Results

The mean age was 76.5 (SEM) years (23m and 53f). Mean OC was 22.6+/-13.7ug/l(range 11-50), mean CTx was 0.64+/-0.3ng/ml(range 0.01-50), mean PTH was 44.4+/- 31.9pg/ml(range 15-65), mean 25(OH) was 15.7+/-8.7ng/ml(hypovitaminosis D < 25ng/ml). 10 (13%) had vertebral fractures. CTx values correlated strongly with femur BMD and Spine BMD with p< 0.02 and p< 0.05 respectively. OC values correlated with femur BMD and femur T score with p< 0.004 and p<0.02 respectively.

Conclusion

A significant number of elderly hip fracture subjects suffered from Osteoporosis and low vitamin D. Bone turnover markers especially CTx closely reflected the bone status of patients with hip fractures.

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AN INVESTIGATION INTO HIP MUSCLE STRENGTH AND BIOMECHANICAL MOMENTS PRODUCED DURING CHAIR SIT DOWN IN OLDER ADULTS

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Background

Muscle strength is an important component of performance and is a vital measure for characterisation of functional capability in everyday activities. However, there is little information on muscle strength impairment and functional limitation during chair sit down activity in older adults.

Method

This study utilized a custom-built torque dynamometer to measure muscle strength of hip extensors in 82 older adults who were aged 60 years and over. Isometric strength was measured at three positions namely 45°, 30° and 0° of hip flexion within the joint range of motion. Biomechanical analysis with Vicon motion analysis system and Kistler force platforms was performed to determine functional moments produced during chair sit down.

Results

Hip extensor strength decreased with increasing age at all the three joint positions tested. The 80 year olds had lower strengths (22% ± 3%) compared to those in the younger age cohorts and the differences were found to be statistically significant. (P value <0.05) Hip extensor strength was significantly correlated with functional moments with a Spearman's correlation coefficient of $r = 0.62$. (P value =0.000)

Conclusion

Hip extensor strength was strongly associated with the functional moments produced during chair sit down. Hence, it could be suggested that loss of muscle strength with advancing age might limit chair sit down performance in older adults.

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CLINICAL UTILITY OF 24 HOUR URINARY CALCIUM ESTIMATION IN THE ASSESSMENT OF BONE BREAKDOWN

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Introduction

Whole body calcium metabolism is complex and excretion is a function of vitamin D status, calcium intake, PTH and calcitonin levels. Estimation of 24 hour urinary calcium excretion(UCa) is traditionally held as useful in assessing the risk of renal stone formation and a crude indicator of bone resorption. A range of novel markers of bone turnover are increasingly being used in clinical practice. The purpose of this study is to establish if there is any relationship between UCa and markers of bone turnover.

Methods

111 elderly patients with osteoporosis attending the bone protection clinic had a full biochemical assessment comprising: 24 hour UCa; 25 OH vitamin D and PTH level; C-Telopeptide(marker of bone breakdown); osteocalcin(marker of bone formation).

Results

Urinary calcium had a weak positive relationship with C-Telopeptide ($r=0.175$, $p<0.05$), and a stronger neagative relationship with vitamin D ($r= -0.26$, $p<0.005$). There was a strong negative relationship between vitamin D and c-telopeptide($r= -0.357$, $p<0.001$). There was no significant relationship between UCa and osteocalcin($r= -0.103$, $p<0.15$).

Conclusion

Our data indicated a positive relationship between UCa and c-telopeptide, and a negative relationship between vitamin D status and UCa. Thus 24 hour UCa is influenced both by the degree of bone resorption and more strongly by vitamin D status in osteoporotic patients. Bone resorption was also influenced by vitamin D status.

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HYPOVITAMINOSIS D IN COMMUNITY-DWELLING OLDER FEMALE ACUTE HOSPITAL ADMISSIONS

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Introduction

Hypovitaminosis D is common in the institutionalised older population. The Vitamin D status of older community dwelling inpatients and the impact of therapy with oral calcium and vitamin D is unclear.

Methodology

We studied 117 consecutive female acute medical admissions to University College Hospital Galway. Of these, 23 patients were already prescribed calcium and vitamin D supplementation. Serum vitamin D level was assessed in all patients. Those patients (n=94) not already on supplementation were commenced on daily vitamin D(800iu) and calcium(1000mg) supplementation. Blood levels were reassessed after three months of therapy.

Results

Only 53 (45.2%) patients presented for follow-up. Of the total, 88 patients (75%) were vitamin D deficient at initial assessment. Vitamin D deficiency occurred in 81(90%) of those who were on no treatment initially and 7(30.4%) of those already on treatment. Vitamin D level increased from 43.7 +/- 29.7 to 60.1 +/- 28.4nmol/l, $p < 0.0001$, but 20(37.7%) were still deficient at follow-up. Follow-up assessment of compliance revealed 7(12.9%) admitted to partial or non-compliance. (Values mean +/- 1 SD)

Conclusion

Hypovitaminosis D was common in this cohort of patients. Despite calcium and vitamin D supplementation, vitamin D levels failed to reach normality in a significant proportion of patients. Poor compliance with treatment may be a significant factor and regular vitamin D injections (Torgerson D et al, J Health Serv Res Policy 1996;1(3):141-6) may be more practical in treating this population.

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AGE DETERMINES THE PREVALENCE OF WHITE COAT HYPERTENSION

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Introduction

The elderly are at higher risk of postural hypotension than their younger counterparts. This may be exacerbated by the inappropriate use of antihypertensive medications in those with white coat hypertension (WCH). We undertook this analysis to ascertain the prevalence of WCH in a population referred for further evaluation of the elevated office blood pressure (OBP).

Methods

A cohort of 5,716 patients was selected and their OBP and ABPM compared while off treatment. WCH was defined as having an elevated OBP and normal daytime mean ABPM pressures. Univariate and multivariate logistic regression models were created using SAS statistical software.

Results

Fifty three percent of patients were female and age ranged from 16.2 to 98.4 years. The prevalence of WCH increased with age as follows. In those less than 35 years old (n=682) the prevalence was 12.1%, 35-50 years (n=1574) 14.3%, 50-65 years (n=2194) 16.4% and in those greater than 65 years (n= 1266) it was 16.9%. There was also a higher prevalence among females and non-smokers. Multivariate logistic regression analysis showed that age was an independent predictor of white coat hypertension ($P < 0.001$).

Discussion

The results of this study demonstrate a higher prevalence of WCH with increasing age. It is a diagnosis we should always consider in those with elevated OBP. Failure to make the diagnosis may lead to the inappropriate use of medications in a group where polypharmacy is an issue.

CARDIOVASCULAR

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CLINICAL PRESENTATION, RISK FACTOR PROFILE AND OUTCOME OF SUSPECTED ACUTE CORONARY SYNDROME IN OLDER PATIENTS

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Introduction

Few data exist describing modes of presentation and risk factor profile in older patients with acute coronary syndrome (ACS).

Methods

Medical unit admissions with suspected ACS (n=869) were included in an audit over a 170 day period. Information gathered included presenting complaint, risk factors, ECG changes and troponin level. Patients were followed up for an average 109 days using existing computerised clinical information systems. Outcome measures included angiography+/-proceed, recurrent myocardial infarction and death. Statistical comparison was performed between the population under and over 65 years old.

Results

	Aged<65 (n=392) %	Aged>65 (n=477) %	
Presenting complaint			
Chest pain	79.9	50.9	p<0.0001
Breathlessness	4.1	21.6	p<0.0001
Collapse	3.8	14.7	p<0.0001
Palpitations	5.6	3.1	p=0.09
Other	6.6	9.6	p=0.14
Risk factors			
Smoking	43.6	16.7	p<0.0001
Family history	36.5	14.9	p<0.0001
Diabetes	16.1	19.7	p=0.25
Hypertension	35.9	41.5	p=0.10
Hypercholesterolaemia	40.6	45.7	p=0.16
3 or more of the above	24.2	14.3	p<0.0001
ECG Changes	20.2	34.6	p<0.0001
Troponin rise	19.9	37.4	p<0.0001
Adverse Event Rate			
2 week follow up	5.7	9.3	p=0.054
End of follow up	7.8	18.4	p<0.0001
Angiogram done	13.8	5.5	p<0.0001
Normal angiogram	29.3	5.0	p<0.0001

Summary of main results:

Conclusions

Older patients with suspected ACS often present atypically and have worse outcome despite having fewer major risk factors. The results highlight the importance of age as a predictor of adverse outcome and suggest older patients do not have equitable access to angiography.

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WHICH TOOL IS BEST FOR MEASURING QUALITY OF LIFE IN OLDER HEART FAILURE PATIENTS?

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Background

Quality of life is an important aspect of heart failure to measure in research and clinical practice. Most tools used to measure quality of life in heart failure have not been validated in older, frail patients with comorbid disease.

Methods

Prospective longitudinal study. 58 patients with chronic heart failure aged 65 years and over were administered four questionnaires (Guyatt CHQ, Minnesota questionnaire, SF-12 and the Patient Generated Index - an individualised quality of life tool) at baseline, one week and 12 weeks. Reliability scores (Cronbach's alpha) were calculated for each domain, reproducibility was tested with intraclass correlation coefficients (ICC) in patients with no reported global change in quality of life, and responsiveness to change was calculated in patients reporting a change in global quality of life

Results

All questionnaires demonstrated satisfactory internal reliability. The Minnesota and Guyatt questionnaires demonstrated good reproducibility (ICC>0.8), the PGI demonstrated moderate reproducibility (ICC 0.65-0.70), and the SF-12 had poor reproducibility (ICC<0.60). Responsiveness was modest for all questionnaires; the Guyatt and PGI appeared more responsive to deterioration in quality of life; the Minnesota and SF-12 were more responsive to improvement. The SF-12 and Minnesota questionnaires correlated best with New York Heart Association status.

Conclusions

All questionnaires demonstrated reasonable validity, but no one questionnaire demonstrated superiority in all aspects. A combination of complementary questionnaires is recommended when testing quality of life in older heart failure patients.

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ASPIRIN USE IS NOT ASSOCIATED WITH BETTER COGNITIVE FUNCTION IN VERY ELDERLY HYPERTENSIVES - BASELINE DATA FROM THE HYPERTENSION IN THE VERY ELDERLY TRIAL (HYVET)

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Introduction: Previous studies have suggested aspirin may protect against dementia. This is not supported by a Cochrane report with regards vascular dementia.

Methods: HYVET is a double-blind randomised placebo-controlled trial of antihypertensive medication in subjects aged 80-or-more. Entry criteria include systolic blood pressure of 160-199 mmHg. Patients are excluded if they have clinical dementia. Cognitive function is assessed using the Mini-Mental-State-Examination (MMSE). Independent t-test was used for comparison.

Results: Data on 1902 patients were available for analysis. Mean dose of aspirin was 229 ± 103mg. 0.1% of patients at baseline took other NSAIDs. Baseline characteristics (means ± standard deviation) in those taking aspirin and non-users were:

	Aspirin user (n=238)	Non-user (n=1664)
% female	55.9	63.1
Age (years)	83.8 ± 3.6	83.9 ± 3.4
MMSE	25.8 ± 3.7	26 ± 4.2
Age left education (years)	15.6 ± 6.6	15.5 ± 6.8
Sitting blood pressure (mmHg)	174/95 ± 8/5	174/95 ± 10/5
Total Cholesterol	5.8 ± 1.0	5.5 ± 1.1
HDL Cholesterol (mmo1/1)	1.3 ± 0.4	1.3 ± 0.4
BMI (kgm ²)	25.6 ± 3.9	25.4 ± 3.3
Smoker (%)	5.0	4.6

Total cholesterol (p=0.003) and gender (p=0.03) were statistically different.

Conclusions: Aspirin was used by 12.5% of patients. There was no difference in cognitive function as assessed by the MMSE in this cohort, despite aspirin users having a higher cardiovascular risk (higher total cholesterol and higher percentage of males).

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CLINICAL PROBABILITY AND NT-PROBNP LEVELS IN SUSPECTED HEART FAILURE PATIENTS

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Introduction

Clinical diagnosis of heart failure is difficult and availability of echocardiogram is limited. N-terminal pro brain natriuretic peptide (NT-proBNP) has shown promise as a screening tool in the diagnosis of heart failure. Raised levels are associated with heart failure.

The aim of this study was to determine the rationale for the use of this assay when heart failure was clinically likely.

Methodology

Prospective cohort study. 100 patients (M=40, F=60, mean age 82.4) were placed into two groups: clinically likely or not. Patients who had one or more of the following were categorized as clinically likely: 1) Breathlessness plus one or more of the following: PND, orthopnoea and pedal oedema. 2) Signs of heart failure. 3) Abnormal electrocardiogram. 4) Abnormal chest radiograph. NT-proBNP levels were measured (ElecysproBNP assay, Roche diagnostics). Levels > 334 pg/ml(women) and > 227 pg/ml(men) were considered to be pathological.

Results

53/60 women and 35/40 men were categorized as clinically likely to have heart failure. Raised NT-proBNP levels were noted in 39 women and 30 men. The sensitivity, specificity, positive and negative predictive values (%) of clinical likelihood was 91, 18, 74 and 43 for women and 100, 50, 86 and 100 for men respectively.

Conclusions

Clinical probability of heart failure is only moderately useful in predicting NT-proBNP values and hence it cannot replace the use of this assay as a screening tool in patients with suspected heart failure.

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AGEING AND VASCULAR COMPLIANCE

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Introduction

The Augmentation Index (AI) is a measure of wave reflection contributing to the systolic arterial pressure and we investigated the increase with age.

Methods

Central AI was measured and computed in 458 subjects using Sphygmocor®. A total of 755 readings were obtained (302 carotid, 453 radial).

Results

The mean age was 57.5 ± 13.7 years. Women had mean values of AI higher than men in both radial and carotid artery (30% versus 24.9% and 39.2% versus 34.3%)(p<0.001). AI was higher over the carotid (36.1%) than the radial (28.9% p<0.001).

Simple regression coefficients of AI on age for total population and those over and under 55 years (median age) are shown in the Table:

	Age					
	All (n=755)	N obs	<55 yrs	N obs	>55 yrs	N obs
AI Carotid Female	0.52*	101	0.73**	57	-0.32	44
AI Radial Female	0.34*	195	0.75*	95	-0.10	100
AI Carotid Male	0.23*	201	-0.03	68	-0.06	133
AI Radial Male	0.38*	258	0.61*	99	0.11	159

*p<0.001; ** p<0.005

As seen in the Table the relationship was not linear and was best explained by a quadratic equation with plateauing after age 55. A multiple regression of AI on age, age², Diastolic Blood Pressure (DBP), height and gender on whole group showed that AI also independently depended on DBP (positively), height (negatively) and gender, explaining 15-22 % of the variance.

Conclusion

AI increases with age up to 55 years after which it plateaus. In women AI was higher than in men in part due to lower height and closer physical proximity between heart and reflecting sites. DBP and site of measurement were also important.

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PREDICTORS OF EXERCISE CAPACITY AND EVERYDAY ACTIVITY IN OLDER HEART FAILURE PATIENTS

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Introduction

Exercise capacity and daily activity are key outcomes for older, frail heart failure patients. Little is known about the determinants of these outcomes in this patient group.

Methods

Analysis of prospectively collected data from a cohort of 82 patients aged 70 years and over, enrolled in a randomised controlled trial of exercise in heart failure patients. Pathophysiological, demographic, psychological and social factors were analysed by univariate and multivariate regression to determine predictors of exercise capacity (six minute walk distance) and daily activity (daily accelerometer counts)

Results

Between 49% and 55% of the variance in six minute walk distance was explained by variables including New York Heart Association class, depression score, attitude to ageing and use of walking aids. Only 11% to 26% of the variance in accelerometer scores was explained by the model; six-minute walk distance was the only consistent predictor of daily activity.

Conclusions

Physical, psychological and attitudinal variables contribute to variance of the six-minute walk. Six minute walk distance predicts a small amount of the variance in daily activity, but the majority of variance in daily activity remains unexplained and requires further investigation.

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VARIATIONS IN TILT TABLE TEST RESULTS IN YOUNGER AND OLDER PATIENTS WITH SYNCOPE OF UNKNOWN CAUSE

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Introduction

Syncope accounts for 1 % of hospital admissions. When no cause for syncope is apparent from initial assessment, tilt table test (TTT) may reveal a neurocardiogenic origin. We studied the diagnostic yield of TTT in patients with unexplained syncope.

Methods

Retrospective analysis of consecutive TTT results, without pharmacologic stimulation. Patients with unexplained syncope or presyncope were included. Patients with dizziness or recurrent falls were excluded. Patients were divided into 2 age categories: < 60, and ≥ 60 years. We studied the haemodynamic response to TTT. Used Chi-Square tests.

Results

176 patients were included.

Patients <60: 89 patients, mean age 42 years +/- 13(range 18-59). 20/89(22%) had positive TTT. Of those: 9/20(45%) had vasodepressor response, 7/20(35%) cardioinhibitory response, and 4/20(20%) mixed response.

Patients = 60: 87 patients, mean age 76 years +/- 9 (range 60-97). 24/87(28%) had positive TTT. Of those: 15/24(63%) had vasodepressor response, 7/24(29%) mixed response, and 2/24(8%) cardioinhibitory response.

A positive TTT appeared to be more frequent in older than younger patients(28% v 22%, P=0.43). Cardioinhibitory response was less in older compared to younger patients(8 %v35%,P= 0.03). Vasodepressor response was more in older compared to younger patients(63%v45%,P=0.25).

Conclusion

Tilt testing revealed a neurocardiogenic cause in 28% of unexplained syncope in older patients and 22% of cases in younger patients.

Cardioinhibitory response accounted for more neurocardiogenic syncope in younger compared to older patients.

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PREDICTORS OF DISEASE PROGRESSION AND CLINICAL OUTCOME IN PATIENTS WITH AORTIC STENOSIS

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Introduction

Calcific aortic stenosis is the result of an active inflammatory process closely resembling atherosclerosis. Several cardiovascular risk factors have been associated with the development and progression of aortic stenosis.

Methods

Patients (n=155; 68±11 years) with calcific aortic stenosis participating in the SALTIRE trial (randomised trial of atorvastatin 80 mg daily or matched placebo) were followed up for 26±7 months. Severity of aortic valve stenosis and calcification was assessed using echocardiography and helical computed tomography (CT) respectively. Baseline characteristics assessed were: demographics, valvular disease severity, cardiovascular risk factors (smoking, diabetes mellitus, hypertension), vascular disease, co-morbidity, renal function, blood pressure, and serum calcium, glucose, c-reactive protein and cholesterol concentrations.

Results

Aortic jet velocity progressed by 0.20±0.21 m/s/yr and calcification by 22±20 %/yr. Disease progression was predicted by valve disease severity (P<0.001) and age (P=0.004). Atorvastatin did not influence the rate of progression of aortic stenosis. Clinical outcomes were predicted by baseline and subsequent rate of progression of aortic stenosis severity. Clinical and biochemical markers of atherosclerosis and cardiovascular disease did not predict disease progression or clinical outcomes.

Conclusions

Age and baseline aortic jet velocity on echocardiography and aortic valve calcification on computed tomography are strong predictors of aortic stenosis progression. Elderly patients are more susceptible to progression of aortic stenosis irrespective of the presence of atherosclerotic risk factors and vascular disease.

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AN AUDIT OF CURRENT PRACTICE IN THE SCREENING AND MANAGEMENT OF MALNUTRITION IN ELDERLY HOSPITAL POPULATION

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Introduction

60% of the elderly admitted to hospital are malnourished and they often return to the community more malnourished (Malnutrition Advisory Group MAG, 2001). Malnutrition has a negative impact on different aspects of clinical outcome.

Methodology

100 randomly selected patients from two elderly rehabilitation wards(ERW), who have been in the ward for 7 days or more were screened for malnutrition using the Malnutrition Universal Study Tool (MUST). The patients' medical and nursing notes were studied to see whether the patients were screened for malnutrition using the locally approved screening tool (Modified MUST), and whether any nutritional intervention was carried. Standards of care are adopted from the National Service Framework for Older People (March 2001) section 15 of standard four (General Hospital Care). Results of some chemical and haematological indices are recorded if available in the patients' medical notes; no blood tests were done for the purpose of this audit.

Results

61% of the population studied are malnourished or at risk of malnutrition (20% moderate risk, 41% high risk). Only 8% of the patients were screened for malnutrition. 24% were judged to be malnourished without screening. 19% referred to the dietician. Nutritional supplements prescribed for 32% of the patients.

Conclusion

Malnutrition is very common in elderly patients in our ERW. Screening and management are not adequate.

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MAKING THE BEST USE OF A DEPARTMENT OF CLINICAL RADIOLOGY:A HINDRANCE OR A HELP IN REQUESTING EMERGENCY CHEST RADIOGRAPHS

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Introduction

The Royal College of Radiologists has produced system based guidelines, "Making the Best Use of a Department of Clinical Radiology"

- ◆ To improve clinical practice by helping doctors to choose the most appropriate imaging investigation or intervention
- ◆ To reduce unnecessary exposure of patients to radiation

We wish to focus on the usefulness of these guidelines in requesting emergency chest radiographs (CXR).

Methodology

Over a 5 day period the notes of patients aged 65 and over admitted as emergencies were reviewed When a CXR was requested, the reason was noted and compared with indications for CXR in the guidelines.

Results

120 CXRs were requested, reasons identified in 98%. The reasons being mainly symptoms or physical signs:- Dyspnoea 32 (26%),chest pain 24(19%),collapse 13 (10%), signs 12(10%),CVA/TIA 8(6%),confusion 7(5%), others 8(22.5%).Comparing these with the guidelines it is difficult to link these typical clinical problems with indications for a CXR For example, if chest pain is cardiac in origin a CXR request is appropriate but for non cardiac chest pain inappropriate. For collapse or confusion no guidance on investigation is provided

Conclusion

For patients with clear diagnosis the guidelines are helpful. However for the frailer population who may have multiple pathologies and present atypically they are of limited benefit as they are system based, do not cross reference between systems or with disease specific national guidelines.

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SURVEY OF PRESCRIPTION AND ADMINISTRATION OF PARKINSON'S DISEASE MEDICATION IN A DISTRICT GENERAL HOSPITAL

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Introduction

Medication regimens in Parkinson's Disease (PD) are often complex with potential for error. This survey is based on a study by Kraft et al presented at the American Academy of Neurology 2004. P04.141, A331.

Methods

Hospital records and prescription charts of 20 patients with previously diagnosed PD admitted to medical and surgical wards in a district general hospital were reviewed. Data was collected for the first 7 days of admission.

Results

Only 1 (a self-medicator) of the 20 patients had no errors in either the prescription or administration of PD medication. Prescription charts were appropriately written in 13 out of 20 (65%). During the 7 days there were 56 missed doses in 20 patients, with 2 patients each missing 7 doses. 59% of these missed doses were during the first 2 days of admission. The main reasons for missed doses were that the chart was written late (18), no explanation (19) and drug unavailable (9). Entacapone was appropriately prescribed in 3 out of 4 patients. 3 patients were inappropriately prescribed metaclopramide.

Conclusions

This survey shows a lack of understanding of PD medication in patients admitted to a district general hospital. An education programme for doctors, nurses, patients and carers has been instigated.

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TO ASSESS THE IMPACT OF GUIDELINES ON IN-PATIENT PRESCRIBING OF SECONDARY PROPHYLAXIS FOR OSTEOPOROSIS IN PATIENTS ADMITTED WITH FRACTURED NECK OF FEMUR

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Introduction

Osteoporosis is a systemic disease characterised by increased bone fragility and an increased susceptibility to fractures. Low trauma hip fracture, one of its most devastating consequences, is considered in the elderly to be a marker both for osteoporosis and for an increased susceptibility to falls. Patients with hip fracture are therefore at increased risk of subsequent fragility fractures. It is important that attempts are undertaken to reduce this increased risk in such patients. Therapeutic agents with proven efficacy against osteoporotic fracture are now available for the treatment of patients with established osteoporosis.

Methodology

We undertook an audit of patients admitted to our hospital with fractured neck of femur, examining the proportion of patients discharged on secondary osteoporosis prophylaxis, before and after the institution of treatment guidelines. Our audit standard was that all patients admitted with a fractured neck of femur should be commenced on secondary prophylaxis if no contraindication was present. The audit comprised two 12-month retrospective (n=204; 77% patients) and prospective (n=237; 100% patients) components, before and after the implementation of the guidelines. Results were analysed using chi squared testing.

Results

Following institution of the guidelines, significant improvements in de novo hospital commencement of secondary osteoporosis prophylaxis occurred for eligible patients, from 30% to 74% (p<0.001) respectively.

Conclusions

We conclude that secondary osteoporosis guidelines improve the prescribing of secondary osteoporosis prophylaxis in elderly patients presenting with hip fracture.

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AUDIT OF MANAGEMENT OF CHRONIC KIDNEY DISEASE IN OLDER PEOPLE IN EAST KENT HOSPITALS

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Introduction

The incidence of chronic kidney disease (CKD) rises exponentially with age, being 10 times higher at 80-90 years than at 20 -29 years. However, only 3.6% of patients with CKD over 80 years old are seen by renal physicians. There is evidence that appropriate investigations and management of CKD can slow progression and improve quality of life. An audit of management of patients with CKD under the care of geriatricians was carried out in a large NHS trust.

Methods

87 patients seen in April and May 2003 were included if they: were 75 years of age or over; were not seen by renal physicians; and had serum creatinine over 150µmol/l (male) or 135µmol/l (female)

Patients were excluded if they died within 7 days or had acute renal failure

Results

Test	%
Bicarbonate	49
Potassium	99
Phosphate	63
PTH	10
Haemoglobin	96
Renal Ultrasound	35
Protein electrophoresis	14
Urinalysis	68
High PTH treated	25
Bicarbonate prescribed if low	28
Haematinics if anaemic	61

Conclusions

In this sample of patients, some of the basic tests and many treatments were not carried out. Less than half of the patients were fully investigated, and appropriate simple treatments were not used. We plan to use a combination of local initiatives and the evidence from the Renal NSF Module 3 on CKD to change practice and then complete the audit cycle.

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IMPLEMENTATION OF REHABILITATION PRO-FORMA FOR SURGICAL GERIATRIC PATIENTS

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Introduction

A large number of geriatric rehabilitation referrals come from the General Surgical wards. The amount of patient information given in the referral letters can be variable. This can delay appropriate patient placement and rehabilitation. We performed an audit of these letters and implemented a new one-page referral pro-forma.

Methods

We analysed all PRHO referral letters from the General Surgical wards over a six month period. The new rehabilitation pro-forma was then implemented and this was collected over a further six months. We analysed the amount of patient information supplied between the two methods.

Results

We collected 101 referral letters over the 12-month period. Forty six were via the new pro-forma. The mean age of patients was 79.1 +/- 9.1 (43 male: 58 female). There were 45 post-operative patients. The following information was analysed between the old and new methods of referral: ward number (98% vs 100%), name of referring consultant (67% vs 100%; P<0.001), past medical history (61% vs 100%; P<0.001), on-going medical problems (65% vs 100%; P<0.001), social circumstances (43% vs 100%; P<0.001), mobility (50% vs 95%; P<0.001) and continence (7% vs 95.6%; P<0.001).

Discussion

Little information on patients' medical, social and functional status was given in the PRHO referral letter. A simple tick-box pro-forma successfully collected more of these important patient details and allowed prompt referral to the appropriate member of the multi-disciplinary team.

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AUDIT OF DRIVING ADVICE GIVEN TO PATIENTS WITH DEMENTIA

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Introduction

Age-related conditions affecting fitness to drive, including dementia, are clearly defined by the UK Driver and Vehicle Licensing Agency (DVLA). Our impression was that current practice in terms of advising patients with diagnosed dementia about their legal responsibilities was suboptimal. This audit aimed to investigate this systematically with a view to implementing changes in practice.

Methods

Consecutive referrals to each of six consultant old age psychiatrists in West Leicester and Leicestershire over a period of 14 months were considered and the first 20 patients from each consultant with an established diagnosis of dementia were included. Case notes were reviewed to determine documentation of driving activity and adherence to DVLA guidance.

Results

Case notes for 111 patients were available (40 men; mean age 79 years; mean MiniMental State Score 25). The assigned clinical diagnoses were Alzheimer's disease 62(56%), vascular dementia 12(11%) and other dementia 37(33%). In only 21(20%) cases was it documented that the patient had been asked about driving as part of their assessment. Patients asked about driving were more likely to be male (12/21) and were significantly less cognitively impaired (mean MMSE 24 vs 19; p=0.001).

Conclusions

Enquiry about driving behaviour is infrequent even allowing for the fact that some patients would be assumed not to be driving because of their circumstances. Action is needed to raise clinicians' awareness of this important legal obligation.

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STOPP - A NEW SCREENING TOOL OF ELDERLY PATIENTS' PRESCRIPTIONS

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Introduction

Inappropriate drug usage in older patients is associated with increased rates of adverse reactions and excess expenditure of health resources. Current established validated screening tools include Beers Criteria and IPET (Improved Prescribing in the Elderly Tool), however limitations to their use in contemporary practice have been acknowledged. A new evidence-based checklist (Screening Tool of Older Patients Prescriptions; STOPP) was developed from first principles to identify inappropriate prescribing in older patients and it role has been developed with a previous pilot study.

Aim

To compare the performance of STOPP with that of the BEERS and IPET tools

Methodology

A prospective cohort of 656 consecutive patients > 65 years was identified following emergency admission to an acute tertiary referral hospital. All patients were screened simultaneously with Beers Criteria, IPET and STOPP tools. The rate of inappropriate medications usage was established for each tool and their performance compared by calculating matched odds ratios.

Inappropriate Prescriptions Identified	Beers Criteria	IPET	STOPP
Number	121	205	626
Rate % Patients affected	3.3% 110	5.6% 175	17.2% 381

The odds ratio of STOPP identifying an inappropriate versus Beers Criteria was 6.88 (95% CI 5.3-8.9, p,0.05). The odds ratio of STOPP identifying an inappropriate versus IPET was 3.808 (95% CI 3.0-4.8, p, 0.05).

Conclusion

This expanded study shows that STOPP significant outperformed established tools in detection of inappropriate prescriptions among this cohort of unwell elderly patients.

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STROKE CLERKING PRO FORMA - A CHALLENGE

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Introduction

Stroke is the single biggest cause of severe disability and the third most common cause of death in the UK. Effective management of stroke depends on identifying the risk factors and the range and extent of neurological deficits. Our audit was designed to establish whether clerking is sufficiently targeted.

Methodology

Random retrospective case-note review of stroke patients admitted between April and October 2004 at Macclesfield District General Hospital (MDGH). Using the Royal College of Physicians' (RCP) Stroke Clerking Pro forma as the gold standard, key parameters were identified and their documentation evaluated. The parameters included co-morbidity, risk factors, dysphagia, visual field defects, Glasgow Coma Scale (GCS) and Mini Mental Test score (MMT). Comparative analysis was used.

Results

Sample size n=58 (f=29, m=29), aged 47 - 100 years (mean 77.82, standard deviation 10.17). Co-morbidity was recorded in 51/58 (87.93%); risk factors 13/58 (22.41%); dysphagia 15/58 (25.86%); visual field defects 25/58 (40%); GCS 43/58 (74.14%); MMT 9/58 (15.52%).

Conclusion

Co-morbidity, GCS and speech were relatively well documented. Risk factors were surprisingly poorly recorded. We recommend that our local pro forma should be redesigned and made more user-friendly so as to encourage its use on admission. This would be a step forward in the delivery of targeted stroke care at MDGH. Re-audit is planned at a later date.

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MEASUREMENT OF POSTURAL STABILITY DURING GAIT IN ELDERLY FALLERS AND YOUNG AND ELDERLY NON-FALLERS

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Introduction

Accelerometers have been suggested for quantitative measurement of postural stability. This preliminary study measured walking using accelerometry.

Method

Five healthy older, 6 young and 4 subjects with a falls history were assessed. Vertical (V) and mediolateral (ML) ankle and spinal accelerations were recorded during "slow", "self-pace" and "fast" barefoot walking. Postural stability was quantified as within-stride standard deviation of acceleration (SD) after normalising for walking speed. Results were analysed using independent t-tests (P<0.05).

Results

See Table 1. All elderly non-fallers' acceleration SD's were significantly lower than the young groups'. All slow walking acceleration SD's were significantly increased for the fallers compared to elderly non-fallers.

Discussion

Differences between the young and elderly non-fallers may be explained by caution of the elderly. Increased spinal acceleration in the fallers compared to non-fallers indicates poor dynamic postural stability, while ankle measures reflect unsteadiness in intended movement and impaired motor control.

Conclusion

Accelerometers allow sensitive, inexpensive and portable measurements of dynamic postural stability.

		SD (ms ⁻¹)			
		Spine V	Ankle V	Spine ML	Ankle ML
Walk	Group	Mean+/-s.e			
Slow	Young	1.76+0.17	4.08+0.47	1.48+0.15	4.14+0.57
	Non-Fallers	1.06+0.05	2.75+0.16	0.74+0.03	1.95+0.14
	Fallers	1.55+0.12	4.35+0.35	1.11+0.04	3.72+0.58
Self-pace	Young	3.21+0.29	7.55+0.68	2.30+0.23	7.16+0.65
	Non-Fallers	2.05+0.14	4.79+0.22	1.06+0.05	3.76+0.26
	Fallers	1.61+0.18	4.46+0.48	1.02+0.05	3.13+0.39
Fast	Young	5.86+0.54	10.46+0.83	3.59+0.32	10.16+0.87
	Non-Fallers	2.97+0.17	6.58+0.27	1.70+0.07	5.50+0.30
	Fallers	2.57+0.26	7.09+0.53	1.31+0.04	5.27+0.39

Table1: Acceleration SD of V/ML, spine/ankle for three walking speeds/groups

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CONSEQUENCE OF MEMORY CLINIC ASSESSMENT IN A COHORT OF 150 CONSECUTIVE REFERRALS

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Introduction

Memory clinics are proliferating throughout the UK. Their role has changed in recent years, with the advent of drug therapies for people with Alzheimer's disease and a growing awareness of the potential benefits of good vascular risk factor management.

Methodology

Retrospective analysis of 150 consecutive attendees at Dundee Memory Clinic between Jan 2001 and April 2004. Data were extracted on demographic details, vascular risk factors, investigations, diagnoses and treatment recommendations.

Results

66/150 (44%) were male, mean age 72 years (range 55-87). The median MMSE score was 23/30. 102/150 (68%) were diagnosed with dementia - Alzheimer's disease 68/150 (45%), vascular dementia 16/150 (11%), mixed 11/150 (7%), alcohol related 7/150 (5%).

A total of 71/79 (90%) patients with Alzheimer or mixed dementia were referred for anticholinesterase therapy. Cardiovascular disease, stroke, diabetes or hypertension were identified in 85/150 (63%) patients.

34/150 (23%) patients were recommended for new pharmacological therapies to reduce cardiovascular risks.

After Alzheimer's disease, the commonest diagnoses (25/150, 17%) were anxiety and depressive disorders. Of these, new antidepressant medications were started in 13/25 (52%) patients.

Conclusion

The role of memory clinic is much broader than simply diagnosing dementia. It also includes the management of depression and vascular risk factors.

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THE USE OF SLEEPING WITH THE HEAD OF BED TILTED UP IN CLINICAL PRACTICE FOR TREATMENT OF ORTHOSTATIC HYPOTENSION

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Introduction

Treatment of orthostatic hypotension (OH) is problematic as existing treatments such as drinking fluids, salt-replacement and medications may lead to hypertension and tend to be poorly tolerated in the elderly. Sleeping in head-up tilt (SHU) is a recognised treatment for OH with a small evidence base for angles = 12°. The aim of our study was to determine prescription of SHU in clinical practice.

Methods

A multi-country, postal survey of 220 clinicians was conducted between 3/2/2004-31/8/2004. These were clinician attendees of an International Syncope conference in 2003. The structured questionnaire investigated the use of SHU in clinical practice.

Results

There were 149 respondents representing a 67% response rate. One hundred and thirty-five (91%) of the respondents were from United Kingdom and 105 (70%) were either head of department or consultants. Ninety (60%) of the respondents prescribed SHU (40 [27%] routinely) and 66 specified an angle. These ranged from 2° to 45° with a median angle of elevation of 6.5°. Of those who recommended specific tilt-angles, 44 (67%) recommended tilt < 12° with 24 (36%) recommending 3-5° tilt. SHU ranked fifth in OH treatment modalities utilised.

Conclusions

Almost two-thirds of respondents prescribed SHU for treatment of OH. However, only one-third recommended angles which were research proven. More studies are required to determine if SHU at lesser degrees of elevation is efficacious.

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OPTIMISING PATIENT SELECTION FOR RECOMBINANT PARATHYROID HORMONE THERAPY

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Introduction

The recent availability of anabolic therapies for osteoporosis necessitates a thorough investigation for this treatment to out rule the recognised contraindications as well as potential complicating factors such as idiopathic hypercalcuria which substantially increased the patients' risk of renal calculi whilst on PTH therapy.

Methods

We review the first 84 patient referrals to a specialist osteoporosis clinic for PTH therapy and we report the results of a comprehensive clinical investigation of these subjects.

Results

The mean age of the referrals was 74.9± 11 years with 71 females and 12 males. All had severe osteoporosis and 70% had addition of vertebral fractures(>/=1). Nine patients were excluded from PTH therapy because of monoclonal gammopathy and/or Bence Jones Protein. One was also excluded because of a history of breast cancer with radiotherapy. Four males with elevated PSA could not immediately commence PTH and were referred for prostatic biopsy. Two patients were in advanced CRF (creatinine clearance of <30mls/min). Five patients had hypercalcuria (24 hours U. Ca of >7.5mmol) and this is under active management at present prior to PTH. One patient was treated for thyrotoxicosis and two for Coeliac disease prior to commencing PTH therapy. Six patients were unable/unwilling to self inject.

Conclusion

In older age groups there is a high prevalence of secondary causes for osteoporosis and these must be thoroughly investigated prior to consideration for PTH therapy.

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OLDER PEOPLES' PERCEPTION OF HEALTHCARE PROFESSIONALS' ATTITUDE TOWARDS THEM AND THEIR CARE

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Introduction

A key aim of the NSF for older people is to ensure high quality, integrated health and social care services and to improve the attitude of the NHS staff towards older people. This audit has been undertaken to address standard 1 and 2 of the NSF and to ensure that older patients perceive that the people involved in their care possess the right kind of attitude. Recently undertaken healthcare commission patient satisfaction surveys did not include older patients as a separate group.

Methodology

A questionnaire was prepared and 86 patients above 70, who were cognitively intact, and had been inpatients for more than 14 days, were invited to respond through the patient panel representatives.

Results

8 patients declined. 71 returned the questionnaire, in confidence, to the panel members. Not all questions were answered by all 71. 87% had been inpatients before. 30% of respondents thought that older people were discriminated against. 83% to 92% thought that their needs were understood and met, and that the staff worked as a team. 41% of respondents had to answer the same questions. 23% frequently had difficulty in understanding the staff.

Conclusion

Most older people understand the role of team work and recognise our efforts. A significant number still believe that they are treated differently, have to repeat themselves, and would like more effective communication. There is a need to address these issues using their feedback.

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EXPERIENCES OF CLINICAL GOVERNANCE TRAINING IN SPECIALIST REGISTRARS IN GERIATRIC MEDICINE

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Introduction

Clinical governance forms part of the generic curriculum in all specialities and covers the practice of audit, guidelines, risk and adverse event management, research governance and clinical effectiveness. Training has been on an adhoc basis at individual trusts rather than forming part of the formal training days.

Methods

An opportunistic survey was done of 106 specialist registrars (19.3% of all geriatric registrars) attending training days and the trainee's meeting at Harrogate. The 23-point survey asked questions regarding the registrars perceived knowledge of items of clinical governance and whether they had received any training in these areas. Registrars were represented from 10 regions although those 6 regions that volunteered to distribute questionnaires (response rate 50-65%) predominated.

Results

Results were similar between all regions. Generally there was good knowledge and experience of audit (79%), although lack of awareness of the Caldicott guidelines (10%). Subjective knowledge of risk (24%), adverse events (47%) and aspects of complaints management (30%) were lower. Training had occurred in 35% of Registrars. Fifty-seven percent of respondents came from the first 3 years of training. The survey is limited by its subjective nature so there is no confirmation of the quality of knowledge that Registrars have attained. Some regions were under-represented.

Conclusions

Clinical governance training needs to form a more prominent part of the Geriatric curriculum, if the deficiencies in Specialist Registrar's knowledge are to be addressed.

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AN EVALUATION OF THE KNOWLEDGE, SKILLS, AND ATTITUDES OF HEALTHCARE WORKERS TO ELDER ABUSE

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Introduction

Elder abuse and neglect is a serious and prevalent problem, which is estimated to effect at least 3-5% of the older population. Despite publication of the Irish Working Group on Elder Abuse's report, "Protecting Our Future" in 2002, awareness of elder abuse among healthcare workers in Ireland is unknown.

Method

We devised and administered an interview-based questionnaire, directed at 20 NCHD's and 19 medical social workers (MSW). The questionnaire addressed the understanding of elder abuse, its perceived prevalence, attitudes, risk factor identification, training in the area, awareness of government policy, and exposure to cases and their management.

Results

A total of 9/20(45%) doctors interviewed had never heard the term "elder abuse": only 6/20(30%) had read any literature on the topic. No doctors had ever received any formal training, and only one doctor had heard of guidelines that are in place for its management. Some 85% of doctors felt elder abuse was common, and all felt it was under-reported. 13/20(65%) of doctors had treated at least one suspected case of elder abuse in the last year (number of cases range1-30, mean =5). By comparison all MSWs had read literature or had had training on the topic. Most social workers 11/19(58%) were aware of management guidelines, however only 2/19(10%) were able to name them. Amongst the entire group 18/39(46%) would feel uncomfortable using the label of "elder abuse".

CLINICAL EFFECTIVENESS

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AGEISM-? POORLY REPRESENTED IN THE MEDIA

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Introduction

Ageism is a significant problem in Irish society: 54% of older Irish people have experienced incidences of ageism (Stokes E et al, IJMS 2003, 172, Suppl 3, 4). A further manifestation may be a disproportionately low attention to the issue of ageism in the media, compared to other forms of discrimination, e.g. racism. The development of search databases for most of the major newspapers in the UK and Ireland provides a research opportunity to quantify coverage of issues such as ageism and racism.

Method

A review of all the articles written in six popular newspapers between January 2000 and May 2004, with the words "racism" and "ageism" were searched quantified and compared.

Results

The results of the database searches were as follows:

Newspaper	Articles on Racism	Articles on Ageism
Irish Times	2085	61
Guardian	6251	301
Observer	779	54
Independent	2013	92
Daily Mail	586	29
Daily Telegraph	1665	99

Ageism received overwhelmingly less coverage in the press, mean/standard deviation 106 ± 99 , i.e., 4.5% of total number of articles, when compared to racism, mean $=2229 \pm 2067$, Wilcoxon ranked sum, $p < 0.025$.

Conclusion

The study confirms a significant under-reporting of ageism when compared to other forms of discrimination, especially when one considers the scale of the problem. These findings need to be directed to those involved in education of journalists as well as media studies.

DIABETES/CLINICAL

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PREVALENCE OF TYPE 2 DIABETES MELLITUS IN A LARGE SELF REPORTED SAMPLE OF ELDERLY PEOPLE

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Introduction

With an aging population and increasing prevalence, more elderly people are affected by diabetes. Prevalence appears to increase with age and plateau or even decline in the very elderly. The evidence base for this age group is limited.

Methods

15095 individuals aged 75 years and over in 53 general practices underwent an assessment by a nurse. Self reported diabetes, high random glucose, the use of diabetic drugs and for some individuals examination of GP records identified those with diabetes. Prevalence estimates and 95% confidence intervals were calculated accounting for the clustered study design.

Results

1177 (7.80%, 7.11-8.48, 95% CI) individuals were identified as having diabetes, More were female $p < 0.001$, 633 (53.78%, 50.50-56.98, 95%CI).

Prevalence was higher in men (9.42%, 8.41-10.42, 95% CI vs 6.79%, 6.07-7.51, 95% CI) $p < 0.001$. Mean age was 80.94 years, range 75.01-100.45. There were 585 (8.31%, 7.55-9.07, 95% CI) individuals aged 75-79 years identified with diabetes, 365 (7.65%, 6.87-8.43, 95% CI) aged 80-84 years, 167 (6.84%, 5.51-8.17, 95% CI) aged 85-89 years and 61 (7.14%, 5.47-8.81, 95% CI) over 90 years.

Increasing age group was not associated with changing prevalence estimates ($p = 0.098$, test for trend).

Conclusions

These results suggest that diabetes occurs in less than 1 in 10 of older people, lower than many previous estimates. Prevalence did not increase with increasing age, perhaps as a result of poorer survival of those with diabetes.

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INCREASING PREVALENCE OF DIABETES IN ELDERLY

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Introduction

Diabetes (DM) is common in elderly; is prevalence increasing? Melton Mowbray has one General Practice with Specialist Diabetes Nurse.

Method

General Practice & diabetes registers were inspected for diabetic people, DM type & ethnicity. This was compared to known diabetes from 1987 Melton survey [Croxson S et al, Diabetic Medicine 1991; 8: 28-31].

Results

Numbers of subjects, 2004					
Ages (years)	63-67	68-72	73-77	78-82	83-87
DM Men	82	88	70	52	8
All Men	852	607	494	365	82
DM women	51	70	69	59	8
All women	782	728	653	563	176
Number of subjects, 1987					
Ages (years)	65	70	75	80	85
DM men	3	7	8	4	2
All men	124	93	78	49	16
DM women	6	10	9	2	1
All women	158	108	127	62	46

532 of 557 DM subjects were type 2 in 2004 (45 of 52 in 1987). 8 diabetic subjects were Non-White in 2004 (none in 1987)

Discussion

Overall prevalence DM 2004 is 10.5% (95%CL 9.7-11.4) compared to 6.04% (95%CL 4.5-7.8) in 1987, (Fisher exact P 0.00002). Removal of Non-White diabetic subjects doesn't alter result. Proportion of type 2 DM subjects increased from 86.5% (95%CL 74.2-94.4) 1987 to 95.5% (95%CL 93.5-97.1) 2004, (Fisher Exact P 0.014). Diagnosed DM (predominantly type 2) has increased in elderly.

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CHARACTERISING THE FRAILTY PHENOTYPE

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Introduction

Existing frailty measures emphasise physical strength, mobility and balance. Yet frailty is distinct from disability. The aim of this study was to characterise the frailty phenotype further.

Methods

Patients with a history of falls referred to Day Hospital for rehabilitation (DH) were compared to independent controls (IND) recruited from the community. Anthropometric, medical, physiological and functional assessments were performed at the Day Hospital by a single observer.

Results

40 patients were recruited to each group, mean age 84.2 years (DH), 82.7 years (IND). There were no significant differences between groups in anthropometric measures including mean body mass index (25.8 vs. 26.26) and mid-arm muscle area (36.73 cm² vs. 39.48 cm²). 40% of patients (DH) compared to 15% (IND) reported weight loss of 5kg or more in the preceeding 12 months. There were significant differences in maximum grip strength (19.85kg vs 26.45kg), timed get-up-and-go (33.4s vs 12.25s), 6-minute walk (85m vs 288m) and FEV1 (1.29 vs 1.71 l/min). There were also significant differences in cognition (MMSE 24.88 vs 27.60), mood (HAD score 13.93 vs 8.05) and quality of life (SF36 43.25 vs 61.93, EUROQoL 53.98 vs 74.72).

Conclusions

Traditional physical performance measures of frailty along with mood and cognition are clearly discriminatory between DH and independent elderly group. In addition FEV1 and history of weight loss are significantly different and should be considered for inclusion in frailty indices.

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**COPYING INTERSECTING PENTAGONS
AS A PREDICTOR OF AN ADEQUATE
SPIROMETRIC TECHNIQUE IN OLD AGE**

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Introduction

Previous studies have shown that impaired cognitive function predicts poor spirometry technique. We conducted a study to compare the pentagon copying component of the mini-mental state examination (MMSE) with the overall MMSE score in this context.

Methods

We studied 80 patients (42 female), mean age 84 years (range 75-98). Subjects with acute confusion, severe dementia (MMSE<11), poor vision and/or hearing or overt dyspraxic states were excluded. Spirometry was attempted to the American Thoracic Society 1994 (ATS94) criteria for forced expiratory volume in 1 second (FEV₁) and forced vital capacity (FVC). Separate observers conducted the MMSE and scored the adequacy of pentagon construction as YES or NO using the MMSE criteria. The spirometric results were analysed by a separate observer for 'strict' ATS94 compliance (entire spirometry) and 'FEV₁ only' compliance (the first second of forced expiration)

Results

The 'strict' criteria were met by 2/32 (MMSE<24) compared to 16/48 (MMSE>23)(P<0.01), whereas the 'FEV₁ only' criteria were met by 8/30 (MMSE<24) compared to 46/50(P<0.002). 0/23 with a pentagon NO compared to 18/57 with a YES met the 'strict' criteria (P<0.002), and 7/24 compared with 49/56 met the 'FEV₁ only' criteria (P<0.002).

Conclusion

An MMSE <24 and pentagon NO had crude predictive values of 94% and 100% respectively of not meeting the 'strict' criteria. Conversely, most patients with an MMSE >23 and/or a pentagon YES can reliably perform the first second of spirometry.

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**A COMPARISON OF AGREEMENT
BETWEEN PERCENT OF PREDICTED
FORCED EXPIRATORY VOLUME
CALCULATED BY HEIGHT AND ARM-
SPAN IN OLDER ADULTS**

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Introduction

Predicted values of Forced Expiratory Volume (FEV₁) are calculated with reference to age, gender and height. Loss of height through ageing, however, may affect the validity of the predicted values. To explore this effect, this study measured the agreement between two values of percent of predicted FEV₁ based on height and on arm-span for people aged over 70 years.

Participants and Methods

Fifty-eight patients attending a respiratory out-patient clinic had spirometric assessment and their height and arm-span measured to the nearest centimetre. The mean (SD) age was 78.2 (5.1) years and 53% were male. The mean (SD) FEV₁ was 54.3 (17.3)% of the value predicted using height. Level of agreement was assessed using Bland and Altman's method.

Results

The mean (SD) difference in the predicted values was 4.2 (7.1)% overall. Greater than 95% of values fell within 2 standard deviations of the mean. The mean (SD) difference was greater for women than for men (-5.2 (8.8) vs -2.9 (5.5)) and for people older than 77 years (-6.0(4.7) vs -2.1 (8.6)). For men, the difference increased with increasing height.

Conclusion

Overall, there was little difference between predicted FEV₁ based on height and arm-span. The difference was more substantial for women and for those over the age of 77 years, indicating that predicted values based on height may be less valid for these groups.

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THE RELATIONSHIP BETWEEN VERTEBRAL FRACTURES AND HIP BONE MINERAL DENSITY IN HIP FRACTURE PATIENTS

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Introduction

Vertebral fractures are frequently under-diagnosed. They represent a major risk factor for hip fractures. Our study aims to identify the incidence of vertebral fractures in hip fracture patients and whether patients with osteopenia of the Total Hip would be reclassified as osteoporotic at other hip regions.

Methods

76 patients were recruited, mean age 78.4 years (+/- 5 SD). 58 were females and 18 were males. Bone mineral densities at the Total Hip, Femoral Neck, Greater Trochanter and the AP spine, as well as lateral vertebral morphometry, were measured. Osteoporosis was diagnosed at the Total Hip or AP spine using the WHO criteria.

Results

22 patients were osteopenic and 54 osteoporotic. 13.6% of osteopenics had osteoporosis at the femoral neck and 4.5% at the greater trochanter and could be reclassified as osteoporotic. 10 patients did not have lateral vertebral morphometry assessment. 18/66 patients had at least 1 vertebral fracture. A single vertebral fracture occurred in 13.6% of osteopenics. The average bone mineral density at the hip in patients with osteoporosis and vertebral fractures was 0.531 (T-Score -3.57), compared to 0.582 (T-score -3.09) in patients with osteoporosis alone.

Conclusion

Vertebral fractures can reduce hip bone mineral density by 3%. To improve osteoporosis detection, treatment and prevention of fractures, lateral vertebral morphometry must be done in all hip fracture patients.

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FALLS IN AN ACUTE HOSPITAL AND THEIR RELATIONSHIP TO RESTRAINT USE

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Introduction

Restraints are often used to try and prevent patient falls, but there is increasing evidence that restraints may themselves lead to injury and even death.

Methods

Retrospective study of incident report forms to determine fall rates over a single year in a large teaching hospital, with particular emphasis on the contribution of bedrails to falls and injuries.

Results

There were 267 reports of patient falls, and the fall rate per 10,000 patient days was 13.2 (95%CI 11.6 - 14.8). Fall rate increased dramatically with increased age. Eighty two (30.7%) falls resulted in injury, of which 6 (7.3%) were serious, including four hip fractures. Injuries occurred in 71/247 (29%) unrestrained falls and in 11/20 (55%) falls in patients who were restrained, and injuries were more severe in falls with restraints in place (chi-square trend 20.3, df = 1, p < 0.0001). Bedrail-associated falls accounted for 12 (11.8%) of all bedside falls and 8 (27.6%) of all bedside injuries; 8/12 (75%) falling out of beds with bedrails sustained injuries. Chairs with lap-trays attached accounted for 5 (11.6%) of chair-related falls and 4 (33.3%) of chair-related injuries; 4/5 (80%) falling from chairs with lap-trays sustained injuries.

Conclusions

Injury is more common and more severe in patients who fall while restraints are applied. Our results further call into question the wisdom of using restraints to prevent falls in hospital patients.

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REDUCTION IN BEDSIDE FALLS AND HOSPITAL LENGTH OF STAY USING BEDSIDE PRESSURE SENSORS

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Introduction

Falls are common among elderly in-patients. The majority of these occur at the patient's bedside, unwitnessed and even when risk is identified there is reluctance or inability for patients to call for assistance. To try and reduce these falls, we report a 12 month update using bedside chair and bed pressure sensors.

Methodology

Bedside chair and bed pressure sensors incorporating a paging mode facility (SensorCare Ltd) were evaluated over a 12-month period on the orthogeriatric rehabilitation ward. Rate of bedside "fallers" and "falls" were compared to the previous year. Mean(SD) were calculated where appropriate and logistic regression analysis used, comparing the risk of a fall among "fallers", "falls" and length of stay.

Results

The mean percentage of in-patient bedside "fallers" in 2002 was 14.9%. In 2003 this was reduced to 8.2%[OR 0.55(95%CI 0.32, 0.94)], adjusted for age. Comparing mean number of "falls" mean (SD) in 2002 was 0.14(0.38) and in 2003 0.09(0.33)[p=0.032]. Mean difference in length of stay between "fallers" and "non fallers" was 3.6 day (95%CI 2.1, 9.2 [p=0.048]). There was no significant difference in mean baseline "STRATIFY" score between groups (3.1 compared to 2.9).

Conclusion

There was a 45% reduction in in-patient falls using bedside sensors. This led to a reduction in extended length of stay suggesting that sensors do not impair on going rehabilitation, however, it is recognised that a further RCT is necessary.

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THE NATURE AND FREQUENCY OF PATIENTS PRESENTING SYMPTOMS INFLUENCES DIAGNOSTIC RATES IN PATIENTS ATTENDING A DEDICATED SYNCOPE CLINIC

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Introduction

Dedicated syncope clinics identify haemodynamic abnormalities in a large proportion of patients presenting with recurrent syncope/falls (McIntosh S et al Age & Ageing 1993;22:53-8). However their usefulness for investigating one event is unknown. We analysed the effect of the frequency of patients presenting complaints on responses identified by syncopal assessment.

Methods

Patients referred for investigation of unexplained syncope/pre-syncope underwent carotid sinus massage (CSM) and head-up tilt using digital artery photoplethysmography if no other diagnosis was identified from history, examination or routine cardiac investigations. Diagnoses identified in patients with >2 syncopal episodes were compared to those with one syncopal/pre-syncopal episode. Differences between groups were evaluated using Chi Square analysis.

Results

Results from 67 patients were studied. 35 patients (mean age 78 years, 17M, 18F) presented with >2 syncopal events (mean number of events in this group was 3.4(s.d. 2.2) in the previous year) and 32 patients (mean age 77 years, 8M, 24F) with one syncopal/pre-syncopal event. Haemodynamic diagnoses were obtained in 32/35 patients presenting with >2 collapse episodes (carotid sinus syndrome (CSS)- 16 patients, orthostatic hypotension- 8 patients, 8 patients with both) and 17/32 patients with one collapse episode/pre-syncope (orthostatic hypotension- 12 patients, CSS- 5 patients). This difference was significant (p<0.01).

Conclusion

CSM/head-up tilt are more likely to result in a haemodynamic abnormality in patients with >2 collapse episodes compared to those with a single event.

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WITHDRAWN

WITHDRAWN

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THE SINGLE ASSESSMENT PROCESS
IN PRIMARY CARE: WHAT IS THE
IMPACT ON OTHER SERVICES?

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Introduction

Within a study of the single assessment process, we evaluated its impact on primary care and other services.

Methods

945 patients aged 70 years + were screened using the Sherbrooke case-finding questionnaire. Where indicated they underwent overview / comprehensive assessments using the Minimum Data Set for Home Care (MDS-HC). Unmet needs were discussed with the patient / carer, and appropriate referrals made.

Results

307 patients were offered MDS-HC assessments, of whom 64 triggered 475 client assessment protocols (CAPS) in 27 domains. The most frequently triggered CAPS (>30) were immunisation and screening, medication management, communication disorders and pain. No-one triggered alcohol or elder abuse, or palliative care. The participants triggered a median of 8 CAPS each (range 2-18), generating 55 referrals as shown below.

Primary Care	General Practitioner	14
	Practice Nursing Staff	14
	Practice pharmacist	2
	Case conferences	4
Community services	Occupational therapists	3
	Community rehab team	4
	Podiatry	1
	Continence advisory service	3
Secondary Care	ENT	1
	Audiology	2
	Memory clinic	1
	Neurology	3
	Cardiology	3

Conclusions

Relatively few referrals were generated in this well-organised practice with an established elderly care nurse practitioner, and her experience may explain the lack of referrals to geriatric medicine. The need for 4 case conferences suggests that the SAP highlighted complex issues. It is unclear whether those refusing further assessment would have had similar needs.

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THE SHERBROOKE POSTAL QUESTIONNAIRE: WHICH PATIENTS AND QUESTIONS TRIGGER FURTHER ASSESSMENT?

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Introduction

The Sherbrooke postal questionnaire is a case finding tool within the single assessment process.

Methodology

We sent the 6 item questionnaire to 945 community-dwelling patients aged 70+. We evaluated respondent characteristics, and affirmative answers. 23 patients not known at the address mailed were excluded.

Results

1. Patient Characteristics by Sherbrooke Questionnaire Response

Score	Males (%)	Male Median age (range)	Females (%)	Female Median Age (range)
0(n=101)	27 (27)	78 (70-85)	74 (73)	81 (70-92)
1(n=278)	122 (44)	82 (70-94)	156 (56)	83 (70-95)
2(n=219)	95 (43)	82 (70-94)	124 (57)	82 (70-94)
3(n=152)	66 (43)	81 (70-92)	86 (57)	83 (70-96)
4(n=73)	27 (37)	81 (70-92)	46 (63)	85 (70-99)
5(n=33)	14 (42)	79 (70-88)	19 (58)	83 (70-95)
6(n=7)	6 (86)	80 (75-84)	1 (14)	90 (90)
No reply (n=59)	29 (49)	85 (70-100)	30 (51)	83 (70-95)
TOTAL (N=922)	386 (42)	85 (70-100)	536 (58)	85 (70-99)

2. Frequency of Affirmative Replies

Sherbrooke question	Replies	Missing data	Triggered
Living alone	857	6	500 (58%)
Medicines	853	10	332 (39%)
Walking	852	11	245 (29%)
Sight	839	24	149 (18%)
Hearing	848	15	244 (29%)
Memory	842	21	195 (23%)

Conclusion

Proportionally men were over-represented, especially in the higher Sherbrooke scores. Non-responders were older. Most patients triggered by not living alone and sight was least often triggered.

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THE SHERBROOKE POSTAL QUESTIONNAIRE AS A CASE FINDING TOOL FOR THE SINGLE ASSESSMENT PROCESS: CAN IT PREDICT PATIENT OUTCOMES AT ONE YEAR?

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Introduction

We evaluated the outcome at 1 year of participants in a study using the Sherbrooke postal questionnaire as a case-finding tool within the single assessment process.

Methodology

986 people aged 70+ years were registered with one practice. 42 already lived in residential / nursing care and 22 were unknown at their given address. The remaining 922 participants were mailed the questionnaire; using practice records and the hospital patient administration system we assessed their domicile at 1 year (at home or moved into care), and identified those who had died.

Results

Death and institutionalisation rates at 1 year according to Sherbrooke score

Score	N ^o Pts	Into RH(%)	Into NH(%)	Died (%)
0	101	0	0	5 (5.0)
1	278	1 (0.4)	0	14 (5.0)
2	219	1 (0.5)	3 (1.4)	7 (3.2)
3	152	0	2	17 (11.2)
4	73	0	0	6 (8.2)
5	33	0	0	6 (18.2)
6	7	1 (14.3)	0	0
Non responders	59	0	1 (1.7)	9 (15.3)
TOTAL	922	3 (0.3)	6 (0.7)	65 (7.0)
Already in RH	36		5 (13.9)	7 (19.4)
Already in NH	6			2 (33.3)

Conclusion

Non-responders and patients with a score of 5 on the Sherbrooke appear to have higher mortality rates, approaching those of patients in care. This highlights the need to assess non-responders. Few people moved into care in this short period.

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A PROSPECTIVE STUDY OF CARBON MONOXIDE LEVELS, ON SEQUENTIAL PATIENTS REFERRED TO AN ELDERLY CARE OUT-PATIENTS DEPARTMENT

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Introduction

Clinical features of carbon monoxide (CO) toxicity may persist or begin long after the disappearance of measurable carboxyhaemoglobin, which has a half life of only four to five hours when clean air is breathed. The early symptoms of CO poisoning are said to be flu like which may encourage the wrong diagnosis. Testing for CO exposure, using a breath metre to measure carboxyhaemoglobin, is straightforward and will pick up exposure in the early stages

Methods

Our study involved the completion of a simple questionnaire combined with a breath test by patients referred to an age related outpatients. The study took place between November 2003 and May 2004.

Patients were excluded if impaired cognition or respiratory distress prevented them from performing the breath test.

Results

A positive result was taken as carboxyhaemoglobin level >3% for a non-smoker and >10% for a smoker. Of the 109 patients visited 101 completed both the questionnaire and the breath test (4 unable due to cognitive impairment, 3 due to respiratory distress and 1 refused).

Of the 84 non-smokers the mean carboxyhaemoglobin level was 0.2% and of the 17 smokers it was 1.6%. There was no evidence of toxicity in either group, with smokers having higher levels as expected.

Conclusion

The negative result of our series may reflect a milder winter or perhaps more efficient house hold heating systems than in the past.

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THE SINGLE ASSESSMENT PROCESS IN PRIMARY CARE: OLDER PEOPLE'S ACCOUNTS

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Introduction

As part of a feasibility study of the single assessment process, we explored older people's views of this process.

Methods

A purposive sample of 26 older people (aged 70+years), which took account of age, gender, ethnicity and Sherbrooke score (as a measure of vulnerability), were interviewed using a topic-focussed schedule to facilitate a systematic approach to data collection and thematic analysis.

Results

Older peoples' accounts indicated that the assessment process using the Minimum Data Set for Home Care tool was an acceptable experience and the assessor was easy to talk to yet thorough in her professional approach. Regular check-ups were viewed as a good idea in principle and some interviewees were in the habit of attending the surgery for their over 75 'MOT'. Although older people valued their access to formal services, most assumed a major role in managing their own health and well being. They typically marshalled their own personal resources, managing difficulties stoically and drawing on support from family members and other informal sources. Reciprocity and interdependence were important elements of the way in which many older people negotiated their independence.

Conclusions

Older people experienced the single assessment process as acceptable and useful in accessing formal services to meet their health-orientated needs. There may be an issue about its capacity to recognise the complexity of balancing formal and informal support in the context of people's daily lives.

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GAIT ABNORMALITIES IN OLDER PEOPLE: COMPARISON OF INTER-PROFESSIONAL ASSESSMENT

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Introduction

Gait abnormalities are common in older people but relatively under-diagnosed. We investigated the prevalence of gait abnormalities among patients presenting to a geriatric medicine day hospital, classified them according to whether they were lower, middle or higher level gait disorders and compared inter-professional (physician and physiotherapist) assessments for this classification.

Methodology

Prospective independent assessment by a physician and a senior physiotherapist of 50 consecutive patients presenting to a day hospital. Presence of a gait abnormality was determined and then classified. Levels of agreement were determined between the two professions.

Results

There was 98% agreement that a gait abnormality existed in 43 people. In classifying the gait abnormality there was complete agreement in over two-thirds of cases (67.4%). There was further agreement of higher level gait disorders (but disagreement in the sub-classification) in 11.6% of cases.

Conclusion

Given the high prevalence of gait abnormality presenting to the day hospital, screening for gait and balance disorders should be of paramount importance. While levels of agreement between the two professions were high, disagreement existed in approximately one-third of cases. Agreement among professionals is essential for appropriate tailoring of treatment and intervention.

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ADMISSIONS TO HOSPITAL FROM CARE HOMES - DOES CASE-MIX ACCOUNT FOR VARIATION IN RATES?

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Introduction

An audit of admissions to Good Hope Hospital (GHH) from local Care Homes (CH) showed variation in admission rates between homes. We investigated whether case-mix was associated with admission rates. Registered Nurse Contribution to Care (RNCC) and Continuing Health Care (CHC) assessments were used as case-mix measures.

Methodology

We recorded the proportion of residents of each home assessed as requiring CHC, high-band RNCC, or medium-band RNCC from North Birmingham PCT (NBPCT) records during 2003. CH admissions to GHH were recorded for the period February 2003-February 2004 as a proportion of each home's residents.

Each home's admission rate was compared with the proportion of medium-band RNCC, and also with high-band RNCC and CHC combined. Significance was tested using Pearson's *r*.

Results

9 homes who admit only to GHH and whose RNCC funding comes from NBPCT were included (306 CH beds). We examined the records of 285 (93%) residents.

74 (24%) residents were admitted during the year, with a range of 4-46% between homes.

56% of residents received medium-band RNCC, with a range of 9-68%. Pearson's *r* was -0.039 ($p > 0.05$). 22% of all residents received CHC or high-band RNCC, range 3-31% per home. Pearson's *r* was 0.171 ($p > 0.05$).

Conclusion

Case-mix as measured by standard assessments was not significantly associated with the rate of admission to hospital from the homes. We suspect factors other than case-mix account for the variations we found.

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RE-IMBURSEMENT OF HOSPITAL
ADMISSIONS FOR PEOPLE WITH
DISABLING DISEASE

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Introduction

The Department of Health Payment by Results policy will be implemented in 2005/2006. Hospital stays will be re-imbursed using HRG's modelled on US Diagnosis Related Groups which use diagnosis, procedures, age and gender to specify length of stay (LoS). The NHS Information Authority funded an exploration of the extent to which physical and cognitive ability affects LoS.

Methodology

For four months, in three hospitals, pre-morbid and admission ability was recorded using the interRAI cognitive performance scale (CPS) and Activity of Daily Living hierarchy (ADL) and repeated on alternate days until discharge or 42 days, for all admissions with myocardial infarct (MI), fractured femur (#NoF), respiratory infection (RTI), chronic airways disease (COPD), stroke or fall. Data were linked to hospital PAS data. Source of admission, discharge destination and transfer to rehabilitation, post acute or other setting was also recorded.

Results

There were 1,942 admissions: Stroke 17%, #NoF 11.5%, MI 13.9%, RTI 22.6%, COPD 15.6%, fall 17.2%, more than one 2.3%. Mean age: males 71.2yrs, females 77.6yrs. ADL >3 (range 0-6) increased LoS by 5.3 days more than expected by HRG (95% CI 4.3-6.2, range #NoF 2.5 days, falls 8.6 days). Regression models against logLoS showed large differences between hospitals. Pre-morbid CPS was significant in MI.

Conclusion

If hospital activity statistics and HRGs do not include measures of function, people with disabling disease will be disadvantaged under Payment by Results.

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BEYOND EVIDENCE FREE COMMUNITY
CARE IN ENGLAND AND EUROPE

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Introduction

Governments are investing in community care to reduce costs and hospital and longterm care admissions with little evidence for policy. The 11 country EU funded Aged in Home Care (AdHOC) project addresses the absence of research evidence on targeting and configurations of services that are the most effective and efficient.

Methodology

People receiving community care services were assessed at project baseline, 6 months and 1 year using the interRAI Minimum Data Set for Home Care (MDS-HC) covering physical and cognitive function, psychosocial and medical domains and formal and informal care provision. Mortality, hospital and long-term care admissions, financial and management structures and service organisation were recorded.

Results

3,785 people, mean age 82yrs, 74.2% female, were included. Physical and cognitive dependency was lowest in Nordic countries and the Netherlands, broadly distributed in the Czech Republic, Germany and England and highest in France and Italy. Hours of formal care provision as a proportion of cross-national median, adjusted for dependency, was 0.27 in Italy (95%CI 0.27-0.34), 0.83 (0.82-0.83) in Nordic Countries, 1.44 in Germany (95%CI 1.29-1.63), 2.82 in England (95%CI 2.31 - 2.86). Informal carer-burden was unrelated to formal care provision except in the Czech Republic and was highest in Germany.

Conclusion

Targeting of community care is inefficient and unfair. Informal carer-burden is affected by service configuration as well as by total formal care provision.

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OLDER PEOPLE'S RELATIONSHIPS AT
TIMES OF MOBILITY CHANGE: A
QUALITATIVE STUDY

WITHDRAWN

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Introduction

This study is a qualitative examination of older people's descriptions of their relationships with partners at times of change in mobility (walking). While such relationships have usually been described in the literature as typifying "care", we question whether this is appropriate.

Methods

Interviewees were seven men and eight women aged between 58 and 85. Recruitment was based on age and having difficulty walking (mobility-disability). Participants were interviewed on four occasions each. Nine of the interviewees lived with partners; all interviewees discussed current or previous relationships; we formally interviewed four partners. Analysis was performed using standard methods of qualitative inquiry, including thematic and case study approaches.

Results

Our participants had several ways of coping with mobility-disability in later life. These included: working together as a couple to ensure recovery; working together to maintain independence; and experiencing considerable difficulty coping with change. Couples did not describe their relationships in terms of carer-cared for dyads, but described the changes that their relationships had undergone. Adaptation within relationships reflects the experience of abrupt or gradual change as well as expectations for the future.

Conclusions

Older people do not represent their relationships through the vocabulary of "care", but do talk about the intricacies of their relationships. It is important that researchers and service providers place relationships firmly at the centre of any understanding of change in later life.

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**DIFFICULTIES IN GAINING
INFORMATION FROM OLDER PEOPLE
IN A QUALITATIVE INTERVIEW STUDY**

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Introduction

The National Service Framework for Older People, Standard 3 states, "Many older people want alternatives to hospital care". To explore this, a qualitative study asked the views of older people about "Hospital at Home" schemes. During this study we found that a number of older people refused to take part. This was explored.

Methods

An interview study was undertaken. Patients admitted to the Elderly Care wards received a study information sheet. They were later asked to participate. Reasons for refusal and demographic data (age, sex, MTS and Barthel scores) were recorded.

Results

87 people were approached. 37 (42.5%) refused to take part. Median age for both groups was 84; median MTS was 9, with a preadmission Barthel score of 18 (refused) vs. 19 (accepted). The median ward Barthel score was 16. In the participating group, 13 patients (26%) offered views when asked, "Any other comments". 4 patients (8%) did not comment on questions regarding preference.

Conclusions

This sample of elderly hospital patients highlights the difficulty of obtaining good qualitative research in hospitals. It was felt that the opening paragraph of the information leaflet, required by the local ethics committee, deterred some patients from participating. It also shows that getting older people to freely express their views can be difficult in hospital, but this remains essential if services are to be developed that meet with older people's needs and wishes.

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**CHARACTERISTICS OF VIOLENCE AND
AGGRESSION AGAINST STAFF IN A
GERIATRICS DEPARTMENT**

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Introduction

In 2003 the York Hospitals Trust management instituted a requirement that all episodes aggression should be reported by means of an adverse incident report (AIR). Review of these showed that the directorate making most reports was Elderly Medicine. We undertook an audit of the reports to determine the characteristics of the aggression.

Method

All AIR forms relating to violence and aggression submitted over a 12-month period were audited by a member of medical staff with particular emphasis on the location of the episode, whether the aggression was physical or verbal and whether violence was used.

Result

There were 181 reports, of which 156 (86% (95% CI 81-91%)) were of aggression towards staff. 73 (47% (39-55%)) of the episodes occurred on the joint Elderly Medicine/ Psychiatry unit. 47 (26% (19-33%)) reports involved instances of verbal aggression of which 26 (55%) were by patients and 17 (34%) visitors.

There were 109 reports of physical aggression, all towards staff by patients, of which 97 (89% (83-95%)) were associated with violence and 31 (28% (19-37%)) resulted in minor injury to the staff member. 21 (22% (14-30%)) of the violent episodes involved use of an implement.

Conclusions

Aggressive episodes occur commonly and are frequently associated with violence and injury to staff members. Further measures are necessary to reduce risk to staff and improve management of aggressive patient behaviour.

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RECRUITMENT RATES TO THE CSH STUDY

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Introduction

Elderly populations are under-represented in clinical trials; this may be due to recruitment problems. A large cohort provides an ideal setting in which to study recruitment interventions.

Methods

1504 patients with carotid sinus hypersensitivity were identified in a database from a single syncope service. Letters inviting patients for the study were sent to all living patients (830). If no response was received, a 2nd letter was sent. The non-responders were then telephoned. Analysis was by Kruskal-wallis or chi squared tests.

Results

495 (59%) responded to the first letter and 425 agreed to investigation. 329 were sent second letters and of these 194 responded and 68 agreed. 139 patients were telephoned and of these, 20 people agreed to participate. This gives a positive uptake rate of 0.02% (20/830) for the third tier of recruitment. The mean ages across the groups are significantly different (chi squared 23.4; p value 0.0), though there is no significant difference between sexes (chi squared 6.9; p value 0.1).

	Mean age	Male (%)	Female (%)
1st letter	71.4	223 (64)	278 (57)
2nd letter	74.4	66 (19)	128 (26)
Telephone call	74.2	39 (11)	61 (12)
No response	68.4	16 (4.7)	19 (3.9)

Conclusion

Three-tier recruitment is time consuming and may not be worth while. Other methods of recruitment must be developed if studies are to include a true representation of the population.

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TOOL FOR THE EXPRESSION OF HEALTHCARE PREFERENCES (EHP)

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Introduction

Our survey of older people's views on end-of-life care indicated that many wished to record their healthcare choices. The NSF for older people advocates patient-centred care. We have therefore developed and are in the process of evaluating a tool (EHP) to help patients express their end-of-life healthcare preferences.

Method

EHP consists of a form and explanatory notes. It was written and revised following review of advance statement literature and guidelines, consultation with geriatricians, the medical director, palliative care and oncology, user groups and lawyers. Evaluation of the first 200 tools is underway. Patients aged >60 yrs with MMSE >23 are given the tool amongst other hospital literature in a patient information pack (PIP). A research nurse returns pre-discharge to complete a feed-back questionnaire.

Results

Forty patients (mean age 82yrs, MMSE 28) have received EHP to date. Eight of 20 (40%) patients that we know read the EHP have completed the form. 18 completed feed-back questionnaires. Due to the EHP 12 had discussed end-of-life care with those close to them and/or medical staff. Scores for the EHP (mean and (range) on a 10 point scale, 1 = no, 10 = extremely) were 7 (4-10) for helpful, 8 (4-10) for interesting, 8 (3-10) for informative, 6 (2-9) for reassuring and, 2 (0-7) for upsetting.

Conclusion

Initial results suggest the EHP is initiating discussion on end-of-life care and enabling those who so wish to record their healthcare preferences. The data do not suggest the EHP is causing distress to patients.

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PSYCHOLOGICAL IMPACT OF FAECAL INCONTINENCE ON OLDER ADULTS

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Introduction

Faecal incontinence is the involuntary loss of liquid or solid stool that is a social or hygiene problem. Studies of the psychological impact of incontinence in older adults have been mostly of urinary incontinence. This study was done to assess the impact of faecal incontinence in older adults living in their own homes.

Methods

23 older adults (mean age 75.5 years, 95% CI 71.5, 79.5, 78.3% females) with no significant cognitive impairment living in their own homes were seen for this study following their consent. The Rockwood faecal incontinence quality of life scale was used to carry out the psychological assessment. The scale ranges from 1 to 5 with lower values indicating a poorer quality of life.

Results

Scores obtained from the Rockwood faecal incontinence quality of life scale

Rockwood faecal incontinence quality of life scale	Average scores
Scale1 Lifestyle	2.1
Scale 2 Coping / Behaviour	1.8
Scale 3 Depression / Self perception	2.2
Scale 4 Embarrassment	2.2

Conclusions

Faecal incontinence has a negative impact on the quality of life of older adults with the condition. Time should be given in the consultation process for people to discuss their worries and ask questions as this will help to alleviate some of the anxiety and embarrassment associated with this condition. Information leaflets explaining the condition and contact numbers for continence advisors should be provided.

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FAECAL INCONTINENCE AND MORTALITY ON ACUTE ELDERLY CARE WARDS

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Introduction

Faecal incontinence (FI) in the older adult has been reported to be associated with an increased mortality in a nursing home setting (Am J Med 1999; 106: 185). We examined the association between FI in the older adult and mortality on acute elderly care wards in a district general hospital.

Methods

30 adults on acute elderly care wards (mean age 84 years, 95% CI 81.5-86.5, 60% female) were seen for this study following their consent or relative assent.

A structured questionnaire and assessment was administered to determine which of the factors associated with FI were present. They were reassessed three months after their initial interview.

Results

13 (43.3%) of these subjects had died before the three month review in comparison to a 16.2% mortality rate on the acute elderly care wards during the study period. The most common factors associated with FI were physical disability (83.3%) with a median Barthel index of 3 (IQR 1 - 6), loose stools (66.7%), faecal loading (56.7%) and cognitive impairment (43.3%).

Conclusion

FI in frail older adults on acute elderly care wards appears to be associated with a high mortality rate. Further work is required to assess the strength of this association and whether FI in a frail older adult on an acute elderly care ward is an independent predictor of mortality.

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THE APPROPRIATENESS OF URINARY CATHETERISATION IN ACUTELY ADMITTED OLDER PATIENTS

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Introduction

Urinary catheterisation is an invasive procedure that carries risks and complications and requires informed patient consent. The indications for catheterisation should be clearly documented. We assessed the indications for catheterisation in the acute care of patients admitted to the geriatric service, its appropriateness and subsequent outcomes.

Method

An observational study of older patients admitted acutely to the geriatric service over 1 month was undertaken. Catheterised patients were identified and their notes were reviewed for evidence of clinical indication. Episodes of subsequent urinary tract infections (UTI), presence of resistant bacterial organisms on urine cultures, hospital readmission and long-term catheterisation rates were recorded.

Results

58 patients were assessed. 10/58 patients were newly catheterised on admission. 4/10 (40%) patients had clear documented indications for catheterisation. 6/10 (60%) were deemed inappropriate. There were 2 readmissions due to subsequent UTI. In 3 patients catheter specimen urine (CSU) samples grew resistant organisms within 1 month of new catheterisation. A proportion of patients exhibited evidence of bacterial colonisation in subsequent CSU. 2 patients (20%) with newly placed catheters were left with them long-term.

Conclusion

Urinary catheterisation is associated with an increased morbidity and there should be clear indications for its use. The use of urinary catheters has an impact on the dignity and quality of life for our patients and requires careful consideration. Further work is required to ensure urinary catheters are used appropriately.

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A SURVEY OF GERIATRICIANS' MANAGEMENT OF CHRONIC KIDNEY DISEASE AND ITS COMPLICATIONS

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Introduction

Incidence of chronic kidney disease (CKD) increases with age. Early management delays disease progression and improves quality of life. However only 3.6% of patients over 80 are seen by renal services. This survey was designed to identify current practice in the management of CKD in older people and attitudes to specialist renal input both now and in the future.

Methods

A questionnaire comprising 14 clinical scenarios and questions on management of complications of CKD was sent to 600 consultant geriatricians randomly sampled from both teaching and non teaching hospitals throughout the UK.

Results

53% (324) questionnaires were returned. Given a creatinine of 150uM/l in a 76 year old woman weighing 58kg, 63% correctly identified the Glomerular Filtration Rate to be between 20-39 ml/minute. 60% said they would not routinely refer patients with comorbid ischaemic heart disease, hypertension, malignancy, stroke or dementia.

Renal bone disease and acidosis of CKD were treated by 64.5% and 40% of respondents respectively. Most (96%) were happy to manage hypertension associated with CKD. However 87% were prepared to manage all complications of CKD with guidance from, or shared care with, renal teams in the future.

Conclusions

Most older people with CKD and its associated complications may currently receive suboptimal treatment from geriatricians. Publication of guidelines and a system of shared care may improve future management.

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MOLECULAR EPIDEMIOLOGY OF TOXIN-VARIANT CLOSTRIDIUM DIFFICILE

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Introduction

Pathogenic strains of *Clostridium difficile* cause diarrhoea and colitis via the action of their toxins; A and B. Clinically important toxin-variant (toxin A-negative, toxin B-positive) strains of *Clostridium difficile* that cause disease in humans have recently been isolated in several countries. The aims of this prospective study were to determine the prevalence of toxin-variant *C. difficile* in our institution and to document severity of disease and recurrence rates associated with these strains.

Methodology

We studied all consecutive patients with nosocomial *C. difficile* diarrhoea (CDD) between July and December 2003. Cases were identified by review of stool *C. difficile* toxin assay results. *C. difficile* was cultured from faecal specimens. Toxin-specific enzyme immunoassays, cytotoxicity assays and PCR were used to analyse *Clostridium difficile* isolates.

Results

We identified 71 cases of *C. difficile* diarrhoea. All *C. difficile* isolates were positive using the toxin-A/B ELISA. Ninety-five % of *C. difficile* isolates were negative using the toxin-A ELISA. The repeating segment of the *tcdA* gene (1,200 bp) was amplified by PCR using the primers NK9 and NK11. *C. difficile* variant strains were detected in 95 % of patients. In the case of amplified fragments of unexpected size, the entire *tcdA* gene was studied by PCRs A1, A2, and A3. A deletion of approximately 1.7 kb was found at the 3' end of the *toxA* gene for 93% the isolates, similar to the deletion in toxinotype VIII strains (e.g., *C. difficile* serotype F 1470).

The overall incidence of CDD during this period was 12 cases per 1000 admissions. The median age of cases was 73 years (range 36-95 years); 37 were female. At least 10(14%) patients (all with toxin-variant *C. difficile*) developed severe pseudomembranous colitis. Recurrent CDD occurred in 29 patients (41%). In patients with recurrent diarrhoea the initial and recurring strain was toxin-variant in all but one case.

Conclusions:

Toxin-variant *C. difficile* appears to be endemic in our institution. We observed an unusually high incidence of severe pseudomembranous colitis (14%) compared to that usually associated with non-variant *C. difficile* (3-5%). Toxin-variant *C. difficile* may go undetected unless routine laboratory practise includes stool culture and testing for both toxins. Further work is underway looking specifically at the immune response to variant toxins and severity of disease caused by these strains.

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A RETROSPECTIVE CONTROLLED STUDY OF 56 OLDER PATIENTS WITH OESOPHAGEAL CANDIDIASIS DIAGNOSED IN A DISTRICT GENERAL HOSPITAL

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Introduction

Oesophageal Candidiasis (OC) in the aged remains understudied although not uncommon. We studied a group of older patients with OC and compared with a matched sample aiming to identify: presentation; associated medical conditions, functional status and upper gastrointestinal pathologies; safety of endoscopy in its presence and whether it is a marker of poor outcome.

Methodology

56 consecutive patients with histologically proven OC and 56 randomly selected age and sex matched controls who had no candidiasis on Oesophago-gastro-duodenoscopy (OGD) were retrospectively studied.

Results

	Cases	Controls
Median age	81	82
Females	66%	68%
Indication for OGD		
Anaemia	28%	29%
Anorexia	40%	29%
Dysphagia	13%	22%
Haematemesis	15%	7%
Melaena	2%	3%
Dyspepsia	2%	13%
Drugs consumed within 4weeks		
PPI/H2b	53%	39%
Antibiotic	22%	3%*
Steroid	26%	14%
Comorbidity		
Malignancy	40%	6%*
COPD	40%	13%*
Diabetes	11%	13%
Rankin's score		
<2	67%	77%
>4	15%	10%
Abode		
Home	73%	87%
Residential	14%	6.5%
Nursing	13%	6.5%
Survival period from endoscopy		
Median	6 months	54 months*
Survival >6 months	53%	94%*
Survival >12 months	38%	90%*

*P<0.01, PPI-Proton pump inhibitor, H2b-antihistamine 2blocker, COPD- chronic obstructive pulmonary disease

Conclusion

OC in older patients tends to be found incidentally rather than associated with classical clinical features. Antibiotic use, malignancy and COPD are significantly associated with OC, while diabetes is not. It is a strong predictor of poor outcome irrespective of the functional capacity at the time of diagnosis.

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OUTCOME OF REFUSAL OF PEG IN HOSPITAL INPATIENTS

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Introduction

Percutaneous Endoscopic Gastrostomy (PEG) is a recognised method of nutritional support. PEG is an invasive process and recent National confidential Enquiry of Perioperative death shows that there is 6% mortality within 7 days of the procedure and 17% procedure were futile.

Method

A retrospective study of patients, referred for PEG feeding between 1999-2003 but didn't undergo the procedure over the period. Reasons for referral, refusal and outcome at 7 and 30 days were documented.

Results

376 patients were referred, 61 (16%) had PEG refused. Mean age PEG refused was 78 yr (34-95). 41% had stroke dysphagia, 19% non-dysphagia nutritional support, 18% with Dementia, 16% aspiration, 6% others. In 24.5% swallowing recovered, 27% were deemed unlikely to survive procedure, 11% deferred by Consultant / family members, 7% had dementia.

10% died before consultation and 14.5% died before scheduled PEG. 36% patients died within 7 days. At 30 days 88% of patients died. All refusals were in agreement of the treating consultant team and or next of Kin of the patient.

Conclusion

This study shows that patients who are refused PEG in agreement with family / carer / treating team are generally poorly and unlikely to survive more than 30 days. This observation shows that refusal of PEG in appropriate patients is justified due to their poor overall outcome.

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ATTITUDES TO AND UNDERSTANDING OF CARDIOPULMONARY RESUSCITATION (CPR) AND DO NOT ATTEMPT RESUSCITATION (DNAR) ORDERS AMONGST OLDER ADULTS

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Introduction

National guidelines emphasise the importance of involving competent patients in resuscitation decisions. Concern remains about the level of understanding regarding resuscitation amongst patients.

We interviewed older adults to discover:

- Their level of knowledge about cardiopulmonary resuscitation (CPR)
- The acceptability of discussing CPR with them
- The impact of a patient information leaflet.

Methods

76 consecutive inpatients met our inclusion criteria (Abbreviated Mental Test >8, planned discharge and no major communication barrier); 26 declined participation.

Consenting patients were interviewed before and after receipt of a CPR information leaflet. The interviews were recorded and questionnaires completed.

Results

68% of the group were female; mean group age was 81 (SD 5.7) years.

70 % thought CPR had >50% success rate.

Opinions about success of CPR were not influenced by age, sex or principal diagnosis.

Most patients would wish CPR (36% always, 36% depending on circumstances).

24% would not wish CPR.

82% were happy to discuss resuscitation with medical staff.

8% did not wish to be involved in discussion regarding CPR.

80% found the leaflet useful however opinions were changes in only 22%.

Conclusions

Older adults are unrealistic about the potential success of CPR.

Preference for CPR reflects this view.

Most patients are willing to discuss CPR.

Patient information leaflets, although well received, only change a minority of patients' views.

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ADVANCE DIRECTIVES: WHAT DO OLDER PEOPLE KNOW?

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Introduction

An Advance Directive (AD) details future treatment preferences of a competent adult should they become incapacitated. Patients' views about ADs are widely reported in the US but UK older peoples' views are poorly understood. A recent English Judgement (*Burke v The GMC*) may enhance rights to request treatment and a draft Mental Capacity Bill seeks to legislate for ADs. We therefore sought to determine older patients' views on ADs in a UK hospital.

Methods

Inpatients aged over 60 agreeing to participate were recruited. Information was gathered via structured interview together with Geriatric Depression Score (GDS) and Mini Mental State Examination (MMSE).

Results

Fifty patients were recruited, 68% female, mean age 84.2 years (SD +/- 5.88). Mean MMSE was 23.86 (SD +/-6.02). 87.5% had never heard of ADs but 44.7% had positive views of them. 34% expressed interest in completing one and 55.3% wish to appoint a proxy decision maker. 23% had previously discussed end of life issues. Most (76.6%) did not want their life prolonged by medical intervention. We found no correlation between patients' opinions and their GDS or MMSE.

Conclusions

Older hospitalised patients have little knowledge of ADs. Their unwillingness to discuss end of life issues and formally document their wishes is likely to limit the effectiveness of ADs. Proposed legislation may not address all of the issues surrounding end of life decisions.

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OLDER PEDESTRIANS: MORE SINNED AGAINST THAN SINNING

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Background

Road traffic accidents (RTAs) involving older people follow different patterns of timing, location and outcomes from those of younger people (OECD, Paris 2001). Older pedestrians are a vulnerable group and few analyses have been undertaken of the phenomenology of injuries and fatalities. We describe patterns of RTAs with the aim of highlighting areas of importance for prevention of death and injury.

Methods

We collated datasets of the Irish National Road Authority from 1998-2002. We categorized patterns of crashes involving older pedestrians comparing them with younger adults.

Results

Older people represented 30% (n=134) of pedestrian fatalities and 12% of injuries while accounting for 11% of the population. Most accidents involving older pedestrians happen in daylight (57% vs 41% for younger adults, $X^2 = 51.2$, $p < 0.00001$) and in good weather conditions. Older people were also less likely to be involved with an accident when crossing with an obstructed view of the road, (14% vs 18 % $X^2 = 3.9$, $p < 0.05$). There was a significant increase in the proportion of older people hit by heavy goods vehicles compared to younger adults (10% vs. 4%, $X^2 = 47.3$ $p \leq 0.001$)

Conclusions

Older pedestrians are particularly vulnerable in RTAs despite using safer strategies than younger adults. This points to a need for prevention strategies that are targeted at other road users, in particular heavy good vehicle drivers, rather than at older people.

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NEGATIVE PORTRAYAL OF OLDER DRIVER

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Older drivers are the safest drivers but many European governments have enacted restrictive legislation directed at them (White S, O'Neill D. *Gerontology* 2000;46(3):146-152). The pressure for ageist legislation may arise from negative media portrayal of the older drivers. We examined the portrayal of older drivers in the media.

Methods

We searched the electronic databases of 15 UK and Irish national and regional newspapers for references to older drivers over the last 5 years. Search terms included: 'Older', 'Old', 'Pensioner', 'Old Age', 'Elderly', and 'Drive', 'Driving', 'Accident', 'Crash', 'Fatality'. Two people independently assessed the articles to be predominantly positive, negative or balanced in their reporting with respect to older drivers

Results

We identified relevant 51 articles of which 4 were positive, 17 negative and 30 balanced. When brief reports on fatal RTAs were excluded, the results for opinion/editorial articles were 15 (negative), 4 (positive), and 7 (balanced). Sample headlines included "Keep the over-50's off our M-ways" and "MP calls for old to get special licences"

Conclusion

Reporting of issues relating to the older driver in the UK and Ireland is largely negative. This represents a facet of ageism in our societies and a stumbling block to maintaining mobility in older drivers. Anti-ageist policy on reporting in the media or positive discrimination by newspapers and broadcasters could be useful in promoting the health and wellbeing of our ageing population.

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PARKINSON'S DISEASE CLINIC: A QUESTIONNAIRE SURVEY TO ASSESS NEEDS AND EXPECTATIONS OF PATIENTS, CARERS, GENERAL PRACTITIONERS AND CARE HOMES

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To assess the needs and expectations of patients with Parkinson's Disease (PD), their carers, general practitioners (GP's), and care homes.

Methods

A questionnaire was sent by post to 180 patients and carers, 148 general practitioners and 66 care homes managers. The questions were designed in-house and anonymous.

Results

49% of patients were fairly satisfied with symptom control. They had received support from a Parkinson Disease specialist nurse (62%), physiotherapy (30%), occupational therapy (32%), and social services (26%). 64% of patients and carers had enough information on PD, but would like more by written material (71%) or video (39%). 78% of patients would like to contact the PD Clinic by telephone, and 79% would like to be seen by the specialist nurse at home. 55% of the GP's had referred patients to a specialist, but 67% were unaware of a PD Clinic and only 16% had access to a specialist nurse. 46% of the GP's felt their knowledge of PD was reasonable, but their knowledge of resources available was barely adequate. 36% of care homes managers' knowledge of nursing needs was reasonable, but none had enough information on PD, and only 24% had support from a PD Clinic.

Conclusion

Patients and carers would like more information on PD, and support from the ancillary services. Awareness of PD Clinics and local resources available needs to be increased.

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AUTONOMIC DYSFUNCTION IS PRESENT IN DEMENTIA WITH LEWY BODIES

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Introduction

Autonomic function has not been prospectively evaluated in Dementia with Lewy bodies (DLB). We investigated autonomic function in DLB, Parkinson's disease with Dementia (PDD) and Parkinson's disease without dementia (PD) and healthy controls.

Methods

105 participants were evaluated (15 DLB, 21 PDD, 41 PD and 28 age-matched controls). Evaluation included power spectral analysis of heart rate variability (HRV) and standard bedside autonomic tests.

Results

In DLB HRV was reduced in comparison with controls in the very low frequency (median 229 vs. 65 ms²; p=0.017) and low frequency bands (190 vs. 40 ms²; p=0.020), and in PD and PDD in all frequency bands and total spectral power (all p<0.05). Bedside autonomic testing confirmed sympathetic and parasympathetic dysautonomia in patients with DLB

	Control	PD	PDD	DLB
Median change in heart rate during deep breathing	5.3	2.8*	2.1**	4.3***
Median Valsalva Ratio	1.25	1.12**	1.06***	1.10
Media heart rate response: standing	1.09	1.03*	1.01***	1.0*
Systolic Blood Pressure Change: SStanding (mm Hg)	-23.2	-41.2**	-47.2**	-42.9*
Change in Systolic Blood Pressure: Valsalva Manoeuvre phase IV (mm HG)	21.4	10.0*	2.1**	7.8

when compared with the control group (results are shown in the table below: *p < 0.05, **p < 0.01, ***p<0.001).

Conclusions

This is the first prospective study confirming the presence of dysautonomia in DLB. We are currently investigating the fects on cognition, white matter disease and falls.

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PSYCHOMOTOR DISTURBANCE IN DELIRIUM - WORK IN PROGRESS ASSESSING MOTOR ACTIVITY WITH ACTIGRAPHY

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Introduction

Delirium is a common problem in hospitalised patients[1] associated with disordered motor activity. Assessment of motor activity with continuous monitoring is difficult. The actigraph monitors real-time, continuous frequency and amplitude monitoring of motor movements at the wrist and is a validated marker of sleep. The role of actigraph with behavioural disturbance has been described [2] but there is little data on its use in delirium. The aim is to describe the natural history of motor restlessness in delirium with a marker (actigraph) and observe for an association with validated delirium rating assessment tools. If a positive association exists then the actigraph can also be used as a separate outcome measure in the assessment of efficacy of quetiapine versus placebo

Methods

Patients are enrolled from an ongoing randomised controlled study of Quetiapine versus placebo in Delirium currently in progress (appendix not printed here*) at university hospital of Wales, Cardiff. The subjects have no prior history of cognitive impairment or dementia and have an in-patient diagnosis of delirium (any cause) and fulfil criteria on rating scale assessment (appendix not printed here*). A cohort study of motor restlessness using actigraph continuous assessment with ongoing rating scale assessment will be used.

Results

Early analysis shows two different groups; low motor activity levels without day-night distinction and high activity groups with early unsynchronised activity (high night activity).

Conclusions

These groups may reflect the different manifestations of delirium into active or hypoactive delirium plus day/night shift and we await further assessment with behaviour rating scales soon.

[1] Brown TL, Boyle MF. *BMJ* 2002;325:644-647. (21 September)

[2] Friedman L J. *Neurol* 1997 april;10(2):58-62.

* Appendices could not be printed due to lack of space

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THE USE OF BIOCHEMICAL INDICES
AS PROGNOSTIC MARKERS IN ACUTE
GERIATRIC ADMISSIONS

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Introduction

In younger patients C-reactive protein (CRP) is a recognised prognostic indicators, however its value has not been assessed in an older population. Biochemical markers such as sodium and albumin are anecdotally more reliable in a geriatric population.

Methodology

Demographic information (age, sex, abridged mental test score (AMTS) and number of medications on admission) and admission laboratory results (sodium, albumin and CRP) were collected from 164 consecutive admissions to an acute geriatric unit with an admissions policy of all patients aged 65 and over. Outcome was assessed as discharge location, coded as 1-independent; 2-sheltered accommodation; 3-residential or nursing care; 4-death in hospital.

Results

Mean age was 79.5 years (\pm SD 9.8 years). Sodium, albumin and CRP were 138 ± 5 , 37 ± 5 and 65 ± 91 respectively. As expected, increasing age, a lower AMTS and polypharmacy were associated with poorer prognosis ($p < 0.001$, $= 0.003$ and 0.008 respectively). High serum sodium was associated with higher discharge dependency, or in hospital death ($p = 0.02$). There was no association between CRP or serum albumin and outcome, whether regarded as continuous or categorical variables. On multivariate modelling age, polypharmacy and serum sodium were independent predictors of a poor outcome.

Conclusion

These data verify the significance of sodium concentration as a prognostic indicator in the assessment of geriatric acute admissions. CRP, an acute phase marker of disease process, does not carry the same prognostic information.

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ELDERLY SEIZURE PATIENTS ARE NOT
AT GREATER RISK OF INJURY THAN
YOUNGER ADULTS

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Introduction

The risk of sustaining seizure-related injury is often advocated as a justification to initiate anti-epileptic drug treatment after a first ever seizure. However, there is little data on seizure-related injuries in the elderly. To ascertain the nature and frequency of seizure-related injuries we examined a group of elderly patients presenting with first ever-seizures.

Methods

Prospective analysis of adults attending a first-seizure clinic between 1999 and 2004. Seizure-related injuries were defined as any injury other than oro-lingual trauma. The seizure type, nature and risk of seizure-related injury in patients over the age of 60 years were compared to younger adults.

Results

Of 520 patients 76 were aged greater than 60 years. Median age 70 (range 60-91 years), 67% male. 62/76 had generalised tonic clonic seizures. Injuries occurred in 14 elderly patients (18%). Minor contusions and abrasions occurred in 13 patients. 1 fractured clavicle was sustained. Seizure-related injuries tended to be more common in younger patients (117/444*, 27%, $p = 0.15$ Fisher exact). Seizure type and spectrum of injuries were similar although significant injuries were more common in younger patients (12% versus 7%). The proportion of partial-onset seizures was higher in elderly patients, 54% have subsequently had further seizures.

Conclusions

The risk of injury with the first-ever seizure is no higher in the elderly population. Long-term follow up may yield further data on the predictors of injury risk in elderly patients who develop epilepsy.

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**MEDULLARY PATHOLOGY IN CAROTID
SINUS SYNDROME/ ORTHOSTATIC
HYPOTENSION**

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Introduction

Carotid Sinus Syndrome (CSS) is responsible for 30% of unexplained falls in the elderly while Orthostatic Hypotension (OH) is prevalent in 14% of 65yrs+. The medulla is home to nuclei which underscore autonomic functions. Yet medullary pathophysiology has not previously been characterised in CSS/OH. We hypothesised that key autonomic areas involved in haemostasis would show increased deposition of the Alzheimer's associated hyperphosphorylated tau protein in CSS/OH brains.

Methods

Paraffin embedded formalin fixed medulla's were obtained from ten CSS (81yrs +/- 7.4 5F), ten OH (85yrs +/-7.2 6F) and 8 control cases (76yrs +/- 8.3 6F). Individual autonomic areas were identified by H&E and LFB generated atlases. Serial duplicate 10um sections were used in a standard batch ICC protocol with the tau epitope AT8. Image Pro-Plus was used to quantify hyperphosphorylated tau per area. Statistical significance was the SPSS non-parametric Mann-Whitney test.

Results

In the medullas, only autonomic areas showed tau pathology and this was greater in CSS and OH medullas compared to controls. For CSS the increase was statistically significant in the Cardio-Reflex Arc (p=0.000) and the Nucleus Ambiguus (p=0.043). For OH this increase was statistically significant in the Hypoglossal (p=0.043) Cardio-reflex Arc (p=0.000), Nucleus Ambiguus (p=0.016) and the Dorsal and Sensory Nuclei of Vagus (p=0.009, p=0.68).

Conclusion

These results suggest that medullary dysfunction is a feature and possible cause of autonomic dysfunction in both CSS and OH.

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**IDENTIFYING SEVERE AND MODERATE
PSYCHOLOGICAL DISORDERS AMONG
OLDER PEOPLE: THE USE OF LATENT
CLASS MODEL ON RESPONSES TO
GHQ-12**

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Introduction

Classifying people using the General Health Questionnaire (GHQ) relies on comparisons with psychiatric diagnosis, optimal cut points being determined by receiver operating characteristic (ROC) curves. Principal Components and Factor Analysis have been used to identify underlying dimensions of the GHQ. These methods have limitations and produced varying results between studies. Latent Class Models may be a more appropriate approach to discover whether meaningful clusters of individuals can be defined in terms of their responses to the 12-item GHQ.

Methods

Data were obtained from a national survey of 999 individuals, aged 65+ years and living in Britain. MPlus program was used to produce latent class model with clusters of individuals homogeneous in responses to the GHQ-12. The characteristics of each group were defined and comparisons made between groups in an attempt to examine the construct validity of the classification.

Results

The model produced a latent variable that classified, 6% of the sample with many positive responses to the GHQ items, 70% without responses, and 24% who fell into an intermediate group. The three groups had different characteristics including the prevalence of chronic diseases, social participation and other aspects.

Conclusion

A latent class model provides a meaningful classification of older people into three distinct groups of psychological disturbance. Further work examining the association between this method of classification and psychiatric diagnosis is needed to provide evidence of criterion validity.

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**ABNORMAL CEREBRAL
AUTOREGULATION IN ELDERLY
PATIENTS WITH TREATMENT
RESISTANT DEPRESSION**

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Introduction

Neuroimaging studies have demonstrated an association between depression in the elderly and cerebrovascular disease. Abnormalities of cerebral autoregulation (CA) would provide further evidence of this association. We aimed to study this association in patients with treatment resistant depression.

Methodology

Cerebral blood flow velocities (CBFV) of both Middle cerebral arteries (MCAs) were recorded using transcranial Doppler ultrasound (TCD) in 10 patients. Arterial blood pressure was measured using Finapres. Matched control data were identified from previously studied normal subjects. CA was investigated by two methods: (a) Step responses, a measure of CBFV plotted graphically (b) Autoregulatory index (ARI).

Results

Patient (control) characteristics were: mean age 75.2 (72.3); mean BP 101.5 (101.0); mean BMI 24.1 (24.7); M:F ratio 1:1(1:1). Step responses showed a slight delay in return to the baseline in patients compared with controls, indicating relative impairment of CA. There was a trend towards lower ARI in patients versus controls for both right MCA (mean ARI 5.278 vs. 5.42 respectively) and left MCA (mean ARI 5.283 vs. 5.64) although this was not statistically significant.

Conclusions

◆ The study demonstrates the feasibility to use TCD to investigate CA phenomena in this clinical population and that the procedures are well tolerated by patients.

◆ A larger study will be needed to confirm whether the small differences observed in CA in severely depressed patients are robust and reproducible.

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**SELF REPORTED DRINK-DRIVING
AMONG MEDICAL OUTPATIENTS**

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Introduction

Older drivers achieve higher alcohol concentration and manifest poor coordination at a lower blood level and sustain serious road traffic accident injuries compared to younger drivers. We surveyed drink driving among medical outpatients.

Methodology

Patients recorded their usual places of drinking and maximum amount of alcohol they would drink should they drink and drive. The age cut off between young and old drivers was 70 years.

Results

Eighty percent (280/350) of questionnaires were returned. Four spoiled responses were excluded. Twenty nine percent (56/191) of respondents admitted to drink driving. Of these, 18% (10/56) would drink more than three units before driving. Drink driving was no different between two age groups and this was 25% (8/32) among older patients. This table show, those who drank at more than one place tend to drink and drive (p<0.006).

Location	Drink & Drive	Don't drink & drive	No response	Don't drive	Total
Home	13	28	17	6	64
Pub	4	12	16	2	34
Restaurant, nightclub	1	7	6	2	16
>1 place	33	43	19	7	102
Others	5	26	24	2	57
TOTAL	56	116	82	19	273

Conclusion

Many patients report that they drink and drive. This is particularly relevant in older age group who by merit of altered metabolism of and sensitivity to alcohol are more prone to road traffic accidents and susceptible to more severe injuries.

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DISCRIMINATION AGAINST PEOPLE WITH COGNITIVE IMPAIRMENT IN COMMUNITY CARE

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Introduction

The 11 country EU funded Aged in Home Care (AdHOC) project addresses the absence of evidence for community care policy. Vulnerable people and their informal carers risk discrimination in the absence of informed policy.

Methodology

People receiving community care services were assessed using the interRAI Minimum Data Set for Home Care (MDS-HC) covering physical and cognitive function, psychosocial and medical domains and service provision. Influenza vaccination, blood pressure measurement, breast cancer screening, medication review, adequate treatment of pain and depression, weight loss, inadequate fluid intake, and assistive device for unsteady gait were used as markers of care quality and compared across countries and cognitive impairment.

Results

Of 3,877 people receiving community care, mean age 82, 74.2% female, 50% were cognitively impaired (28.7 % mild, 11.8 % moderate, 7.1 % severe). Cognitive impairment was highest in Czech Republic, England, France and Italy. Sub-optimal care was lowest in Nordic countries (except Denmark) and more common with increasing cognitive impairment (R = 0.698, p <.017). Discrimination was highest in Germany, England, Denmark and Sweden with four or more indicators absent in people with cognitive impairment.

Conclusion

Extreme differences were seen in provision of preventive services, medication management and selected treatments in Europe. Good quality standardised assessment and routine aggregation of assessment data for performance monitoring could identify discrimination against vulnerable populations.

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REACTIONS TO AN UNEXPECTED PHONE CALL

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Introduction

We often take the ring of a telephone for granted, but how do people aged seventy and over react to an unexpected call?

Methodology

A questionnaire survey exploring older people's relationship to telecommunications was sent to a random selection of persons aged seventy and over on a GP list. Those considered by the elderly care practice nurse to be unsuitable were excluded from the postal list. 518 questionnaires were returned from the 312 sent.

Results

When asked about their reaction to the unexpected ring of a telephone 1% (4/297) reported extreme anxiety; 5% (16/297) moderate anxiety; 13% (40/297) mild anxiety; 64% (190/297) no anxiety; 9% (26/297) enjoyment; and 7% (21/297) a number of other neutral responses. 15 left no response.

Those anticipating a degree of anxiety tended to be female (73% vs. 60%, p 0.068), were three times as likely to report poor (or very poor) health (18% vs. 6%, p 0.003) and up to four times as likely to feel lonely (or very lonely) in the last month (15% vs. 4%, p 0.04). They are also more as likely to report a health problem hindering their use of the telephone (42% vs. 23%, p 0.004). The effect of responder bias is likely to underestimate those experiencing anxiety.

Conclusion

A significant degree of anxiety may be associated with an unexpected telephone call in this age group.

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TRANSIENT NEUROLOGICAL SYMPTOMS DUE TO CHRONIC SUBDURAL HAEMATOMA: IS HEAD INJURY A USEFUL CLUE?

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Introduction

Survivors of cerebrovascular disease are more likely to die of cardiac death than recurrent stroke, but few cardiac investigations are routinely done. Studies of single cardiac abnormalities e.g. coronary disease suggested that certain cardiac abnormalities might be more common in patients who had a stroke. However, no previous study has examined how often different cardiac abnormalities co-exist in individual stroke survivors. In this study, we evaluated the spectrum of hidden cardiac abnormalities in patients with cerebrovascular disease.

Methodology

Detailed cardiac investigations were performed in 202 patients who had cerebrovascular disease. Tests included ECG, echocardiography for left ventricular function and hypertrophy, myocardial perfusion scan, 24-hour ECG and autonomic function tests.

Results

Hidden but potentially treatable lethal cardiac abnormalities were common in survivors of cerebrovascular events. Silent myocardial ischaemia was prevalent (18%). Left ventricular hypertrophy was common (26%). Left ventricular dysfunction (echocardiographic ejection fraction <40%) was present in 8%. 70% of patients with left ventricular dysfunction were asymptomatic. 18% of patients had 2 or 3 of the abnormalities of left ventricular hypertrophy, left ventricular systolic dysfunction or abnormal myocardial perfusion scan. Some degree of autonomic dysfunction was present in 92%, whilst 20% had moderately depressed heart rate variability.

Conclusion

Hidden but potentially treatable lethal cardiac abnormalities are common and often co-exist. Future studies should address the cost-effectiveness for non-invasive cardiac investigations to screen and treat cardiac abnormalities in stroke survivors.

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DAY NIGHT DIFFERENCES IN OXYGEN SATURATION IN ACUTE STROKE PATIENTS

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Introduction

Hypoxia is common after acute stroke, and may contribute to stroke progression. Most studies of stroke related hypoxia were conducted at night. The aim of this study was to determine the differences in oxygenation between day and night early after stroke.

Methodology

Adult patients with a new stroke were recruited within 72 hours of admission. Oxygen saturation was recorded using a Pulsox-3I pulse oximeter. Data were downloaded using Oximeter Download Software. Daytime recordings were 9am- 9pm and nocturnal readings 10pm- 6am. Desaturations (ODI 4%) were defined as a 4% fall from baseline.

Results

Twenty patients [10 males, 10 females; mean age 77 (SD 9) years; body mass index 25.6 (SD 3); 16 anterior circulation syndrome / 4 lacunar syndrome; 17 infarcts, 2 haemorrhages and 1 tumour were included.

	Day	Night	p-value (Wilcoxon signed nk test)
Mean oxygen saturation (SD) [%]	94.4 (2.1)	93.7 (1.8)	0.03
Lowest oxygen saturation (SD) [%]	83.1% (6.5)	82.3% (7.4)	0.6
ODI4% (median and range)	1.8 (0-7.4)	1.9 (0.2-42.1)	0.06
Time spent with an oxygen saturation<90% [min/hour]	4 (0-5)	5.6 (0-7)	0.9

Conclusions

The mean oxygen saturation early after acute stroke is about 1% lower at night than in the day and there was a trend towards more desaturations at night.

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ROLE OF PULSE OXYMETRY IN ASSESSMENT OF ASPIRATION IN STROKE

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Introduction

Dysphagia is a common occurrence after stroke and can result in increased risk of developing aspiration pneumonia. Several screening tests are used including Videofluoroscopy and assessment by speech and language therapists (SALT).

Objective

To compare swallowing assessment from pulse oximetry and SALT in relation to aspiration and its clinical implications.

Methods

44 of 48 consecutive adults admitted with acute stroke were studied. 4 were excluded due to drop in base line oxygen saturation. All were given 10 mls of water to swallow in an upright posture. Pulse oximetry (mean of 3 readings) were performed before, during and 2 minutes after the swallow and patient assessed simultaneously by the SALT blinded to the results of pulse oximetry. A desaturation of 2% or more during or after swallow was taken as unsafe swallow.

Results

21 of 22 patients were identified as safe on basis of pulse oxymetry if given thickened fluids. Which had 100% concordance with SALT assessment.

Out of 18 patients found unsafe on pulse oxymeter two-third were given thickened fluid and one-third were kept nil by mouth by SALT but none of the patients were put on normal fluids which is significant.

Conclusion

Over half of the patients identified as safe by pulse oximeter can be given thickened fluids or soft diet and this method of assessment can reduce the duration and numbers kept nil by mouth.

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CAN A PULSE OXIMETER BE USED TO DETECT ASPIRATION IN STROKE PATIENTS WITH AN UNSAFE SWALLOW?

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Introduction

It is unclear whether desaturation during swallowing implies aspiration and if so at what magnitude of desaturation. This study aimed to look for an association between levels of desaturation during swallowing in acute stroke patients and swallow test results.

Methods

144 acute stroke patients underwent a modified bedside swallow screening assessment (mBSA); this used a radio-opaque contrast rather than water and was followed by chest radiography looking for aspirated contrast. Baseline oxygen saturations were recorded pre mBSA and for 10 minutes thereafter, allowing calculation of the greatest desaturations during 0-5 minutes (T1) and 5-10 minutes (T2) from onset.

Results

On mBSA 74(51.4%) patients had a safe swallow, 65(45.1%) were unsafe and 5(3.5%) aspirated silently. Desaturation by >2% occurred in 35.7% subjects during T1 and 35.3% during T2; only 3.6% desaturated by >5% in T1 and 4.2% during T2. The proportions of safe and unsafe patients desaturating in each time period are given below. There was no significant association between mBSA score and desaturation.

Conclusion

We found no relationship between mBSA score and desaturation at the 2% or 5% level.

	Total (n=144)	Safe (n=74)	Unsafe (n=70)
Number desaturating by $\geq 2\%$ in T1 (%)	50/140(35.7)	29/72(40.3)	21/68(30.9)
Number desaturating by $\geq 5\%$ in T1 (%)	5/140(3.6)	2/72(2.8)	3/68(4.4)
Number desaturating by $\geq 2\%$ in T2 (%)	42/119(35.3)	20/58(34.5)	22/61(36.1)
Number desaturating by $\geq 5\%$ in T2 (%)	5/119(4.2)	2/58(3.4)	3/61(4.9)

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NOCTURNAL OXYGEN TREATMENT DOES NOT IMPROVE ATTENTION AND CONCENTRATION IN MEDICALLY STABLE STROKE PATIENTS

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Introduction

Cognitive impairment after stroke is common problem, and may be related to nocturnal hypoxia. The aim of this study is to test the effect of nocturnal oxygen supplementation on attention and concentration in the stroke patients.

Methodology

Medically stable patients were recruited from the stroke rehabilitation ward >2 weeks after a stroke and randomised to receive oxygen 3 L/min (Intervention) or 0.5 L/min (Control) overnight for 2 weeks by nasal canulae. Concentration and attention were assessed using the Alterskonzentrationstest (Hogrefe, Verlag für Psychologie. Göttingen, Seattle) before treatment (baseline) and after the intervention (week2). Fifty-five semicircles with different positions (upside and down) and different patterns (half-black on left or right) are shown and patients are instructed to mark all that exactly match the example on top.

Results

	Intervention N=21		Control N=25		p-value
Age (years ±SD)	72±7		71±8.5		0.6*
	Baseline	Week2- baseline	Baseline	Week2- baseline	Week2- base
Time taken to complete the test (seconds) Median (range)	59(22-245)	-7(-73,10)	72(41-151)	-13(-89,8)	0.3‡
No. of semi-circles identified correctly out of 20 Median (range)	17(8-20)	1(-5,7)	17(4-20)	0.5(-8,15)	0.6‡
No of mistakes out of 35 Median (range)	2(0.0-11)	0.0(-8,5)	1(0.0-26)	0.0(-8,22)	0.4‡
Error percentage Median (range)	12(0.0-43)	-1(-36,5)	6(0.0-61)	0.0(-32,6)	0.7‡

*t-test, ‡Mann-Whitney test

Conclusion

Both groups improved from baseline to week 2. The level of improvement was the same no better in the intervention than in the control group.

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COMPARISON OF OXYGEN SATURATION IN STROKE PATIENTS FED WITH A CONTINUOUS VERSUS A BOLUS FEEDING REGIME

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Introduction

Dysphagia is common in patients with stroke, and usually managed by nasogastric feeding initially. While most adults take nutrition in 2-5 separate meals per day, enteral feeding by nasogastric tube tends to be given continuously via a feeding pump. With continuous feeding at least part, if not most of the 'meal' is taken while patient is lying flat in bed. Aspiration of regurgitated is more likely in this position, and may lead to hypoxia.

Hypothesis

Patients on continuous nasogastric feeding are more likely to be hypoxic than those on an intermittent feeding regime.

Endpoints:

Mean 24 hour oxygen saturation
Day night difference in oxygen saturation

Methods

This is a randomised cross over trial of continuous versus bolus enteral feeding. Patients with an acute stroke and dysphagia requiring enteral feeding will be recruited within 1 week of hospital admission. Oxygen saturation will be assessed continuously by pulse oximetry for 24 hours while on continuous feeding and for 24 hours on bolus feeding. Half of the patients will be randomised to have bolus feeding in the first 24 hours an continuous feeding and the other half will start on continuous feeding and then change over to bolus feeding.

Questions to the BGS membership

Which fine bore nasogastric tubes are most suitable for bolus feeding?

Are there any units where bolus feeding via fine bore tubes is done regularly?

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MAJOR HAEMORRHAGE AND STROKE RATES IN PEOPLE OVER 75 YEARS IN ATRIAL FIBRILLATION ON WARFARIN

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Introduction

Warfarin effectively reduces the risk of stroke associated with atrial fibrillation but is markedly underused in older people, due to fear of high bleeding rates. There is little data on the rate of haemorrhage in frail older people. This study was performed to determine the incidence of major haemorrhage and stroke in people aged over 75 years with atrial fibrillation on adjusted dose warfarin (INR2-3) who had been recently been admitted to hospital.

Methodology

In this retrospective observational cohort study, all patients aged 76 years and over admitted to a major healthcare network between July 1, 2001 and June 30, 2002 with atrial fibrillation on warfarin were enrolled. Information regarding major bleeding episodes, strokes and warfarin use was obtained from patients, relatives, primary physicians and medical records.

Results

There were 228 patients (42% males) included in the analysis, mean age 81.1 (range 76-94) years. Total follow up on warfarin was 530 years (mean 28 months). There were 53 major haemorrhages giving an annual rate of 10.0%, including 24(45.3%) life threatening and 5(9.4%) fatal bleeds. The annual stroke rate following initiation of warfarin was 2.6%.

Conclusion

The rate of major haemorrhage was high in this old, frail group but excluding fatalities, resulted in no longterm sequelae and the stroke rate on warfarin was low, demonstrating how effective warfarin treatment is.

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RISKS OF BLEEDING ASSOCIATED WITH WARFARIN TREATMENT IN PATIENTS WITH ATRIAL FIBRILLATION IN CLINICAL PRACTICE

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Introduction

To investigate risk factors associated with bleeding in patients with non valvular atrial fibrillation (NVAF).

Methodology

New patients with NVAF referred to anticoagulation clinic were studied. Patients were interviewed personally on their first visit then by telephone 4-6 weekly for a mean (SD) of 19 (8.1) months. They were asked about bleeding events.

Results

402 patients were included over 21 months. One hundred patients had bleeding (11 major and 89 minor), while 302 had no bleeding. There was no significant difference in mean (SD) age between the two groups [72.1 (8.6), and 72.3 (10.9) years respectively, $p = 0.8$]. Older people (≥ 75) formed 45% and 51% respectively ($p = 0.41$). Patients who have bleeding had significantly higher number (SD) of medications per patient [5.5 (2.2) vs 4.6 (2.3), $p = 0.001$] and more past medical history of ischaemic heart disease (IHD) and hypertension (49% vs 34%, $p = 0.004$ and 45% versus 22.5%, $p = 0.0005$ respectively) than patients without bleeding. Target range of INR was achieved in 64% of time in bleeding group and 66% in non bleeding group ($p = 0.71$). Variability of INR (SD) was significantly higher in bleeding group [5.2 (3.4) versus 2.8 (1.9) $p = 0.03$]

Conclusions

Variability of INR, number of medications, IHD, and hypertension were identified as risk factors for bleeding, while age had no significant impact on bleeding.

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VARIATION IN WINTER EXCESS OF STROKE ADMISSIONS

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Introduction

Increased incidence of cerebrovascular diseases in colder season has been suggested. However, whether it is reflected in number of hospital admissions is unclear.

Methods

We analysed a hospital stroke register (catchment population = 568,000) for 6 seasonal years (1997/98-2002/03). We used Curwen's method (Curwen M. Health Trends 1990/91) to calculate winter excess in admissions [winter = December- March: Winter excess = admissions in {winter - ½ (preceding 4 autumn months + following 4 summer months)}]. We performed stratified analysis by (1) year of admission and (2) different age categories using quartile value of patients' ages.

Results

N = 5484, age range = 17-105. Mean and median ages for different quartile groups were: 60 and 63 (= 71), 75 and 76 (72-78), 82 for both (79-84), 89 and 88 (= 85).

Table 1 winter excess by year

Year	Autumn	Winter	Summer	Excess
97/98	280	306	273	+29.5
98/99	283	338	300	+46.5
99/00	327	299	283	-6
00/01	299	303	312	-2.5
01/02	316	326	346	-5
02/03	275	324	294	+39.5

Table 2-winter excess by different age groups

Year	Age (years)	Autumn	Winter	Summer	Winter Excess
97/98-02/03	≥ 71	467	482	499	-1
	72 - 78	436	457	413	+32.5
	79 - 84	458	474	478	+6
	≤ 85	419	483	418	+64.5

Conclusions

There may be an effect of cold weather on the numbers of stroke admissions in old age. Otherwise the 'winter excess' in admissions is variable. Factors such as pathogenetic role of flu outbreaks, excess community deaths in colder season, may be possible explanations. Further studies are required to clarify their influence on the hospital admissions with stroke.

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CHARACTERISTICS OF DRIVERS POST-STROKE

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Introduction

Driving is a means of independence for many. This study compared the characteristics of drivers and non-drivers post-stroke. It also quantified the percentage of patients who received a driving assessment.

Methods

Subjects were patients discharged from the Stroke Service from 1998 to 2002. A structured questionnaire by telephone interview was conducted on participants.

Results

141(39%) of 362 patients agreed to participate. Of 72 drivers pre-stroke, 48(67%) returned to driving. Drivers were younger, (58.2±11.7 vs 67.0±10.6), had a lower Modified Rankin Score (median 1 range(0-3) vs 2(0-5)), more likely having normal cognition (56% vs 42%) and more likely to have had a specific assessment for driving (60% vs 50%) compared to non-drivers. Overall 40(56%) of all pre-stroke drivers had some form of driving assessment. Subgroup analysis showed that 81% of patients below 65 returned to driving compared to 45% aged 65 and above.

Conclusion

It is important to identify patients who have the potential to return to driving post-stroke and to arrange appropriate assessment prior to return. This is primarily for ensuring mobility and independence and also for safety of the patient and public. We feel that by having a structured assessment program for driving, the rate of return to driving is good compared to the previous published rate of 30% (Fisk et al. Arch Phys Med Rehabil 1997;78:1338-45) where 87% of subjects did not recall a driving assessment.

COMPARATIVE STUDY OF STROKE
OUTCOME BETWEEN YOUNGER AND
OLDER PATIENTS

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Introduction

Advancing age is an independent risk factor for stroke. With changing demographic trends, number of older elderly with acute stroke will increase. We examined the impact of ageing on its outcome by comparing between older (≥ 85 years) and younger (55-84 years) stroke patients.

Methods

A hospital stroke register, vetted by a stroke research nurse, over a 5-year period (1997-2001) was analysed. Comparison was made for in-patient mortality, destination of discharge from acute setting and hospital stay. Chi-squared or Median Tests were used as appropriate.

Results

N= 4277. Older people (median age =88, range = 85-105) constituted 24.2 % of all acute stroke admissions (N =1105, male= 367). In-patient deaths were significantly higher in older (42.3%) compared to younger (26.4%) age group ($\chi^2_1= 97.9$, $p < 0.0001$). Of the survivors in the older age group 7.1 % were discharged home directly and 45.5% transferred to community or rehabilitation facilities compared to 24.1% and 42.8% respectively in the younger age group ($\chi^2_6 = 197.1$, $p < 0.0001$). The median length of hospital stay in older age group was 8 days compared to 7 days in the younger age group ($\chi^2_1=5.01$, $p = 0.027$).

Conclusions

Our findings suggest that with advancing age there is a poorer outcome in terms of stroke mortality, longer lengths of hospital stay and an increased need for rehabilitation services. Better understanding and appropriate management of oxygenation, cerebral blood flow, and blood sugar in the acute stroke phase, may alter the outcome from cerebrovascular events in extreme old age in the future.

Friday, 15 April 2005

Platform Presentations

Session G.2, 09.30 - 10.30

PSYCHIATRY, MENTAL HEALTH AND STROKE

PLATFORM PRESENTATIONS

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PHYSIOLOGICAL CORRELATES OF COGNITIVE DECLINE IN AN ELDERLY POPULATION

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Introduction

Cognitive decline in old age is not universal or inevitable. Associations have been observed with neuroendocrine function, but the relevance of other physiological processes is unclear. We predicted that variations in memory in an aging population would be related to the regulation of neuroendocrine and cardiovascular responses.

Methods

139 participants (65-80yrs) were recruited from two general practices in London. Two standardised verbal paired-associates recall tasks were administered to determine declarative memory performance, and a non-memory task (matrix reasoning) was also performed. Salivary cortisol samples were collected every 10mins, while blood pressure and heart rate were measured before, during and after each task. Illness history and medication use were obtained from medical records.

Results

Multiple linear regression analysis, adjusted for age, gender, education, chronic illness, and medication use, revealed that cortisol reactivity was inversely related to memory performance. Additionally, superior memory was associated with more effective post-task recovery of heart rate (in both men and women) and diastolic blood pressure recovery in men. Cardiovascular recovery effects were independent of covariates, and of levels of heart rate and blood pressure measured during tasks themselves. Neither neuroendocrine nor cardiovascular responses were related to performance of the reasoning task.

Conclusion

Memory in older people is associated both with hypothalamic-pituitary-adrenocortical function and cardiovascular regulation. Disturbances of neuroendocrine and hemodynamic function may leave some individuals more vulnerable to cognitive decline than others.

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DIURNAL BLOOD PRESSURE FLUCTUATIONS AND CEREBRAL AUTOREGULATION IN CEREBRAL SMALL VESSEL DISEASE

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Introduction

Adequate perfusion of the vascular watershed areas in the deep white matter of the brain supplied by perforating arteries depends upon the interrelationship between blood pressure (BP) and cerebral autoregulation.

Methods

64 patients (40 male, mean age 65 years) with cerebral small vessel disease were recruited. Cerebrovascular disease load was quantified by T2 and FLAIR MRI brain scanning using the Age-Related White Matter Changes (ARWMC) rating scale. Cerebrovascular resistance (pulsatility index) and dynamic cerebral autoregulatory index (ARI) were measured using transcranial Doppler ultrasound techniques. BP was assessed with 24-hour ambulatory monitoring. Fluctuations in BP and cerebral autoregulation were correlated with MRI lesion load.

Results

Subjects had a mean 24-hour BP of 131/73 (SD12/8), median ARWMC score on MRI of 10.5 (IQR 9) (normal range 0-30), mean pulsatility index of 1.1 (SD 0.4) and mean ARI of 5.7 (SD 1.5) (normal range 0-9). Arterial pulse pressure correlated positively with cerebrovascular resistance ($p<0.01$) and white matter lesion load ($p<0.03$). Cerebral autoregulatory capacity (ARI) increased with increasing systolic BP ($p<0.04$) and nocturnal dipping ($p<0.02$), and was higher in patients with high white matter lesion load ($p<0.02$).

Conclusions

Dynamic cerebral autoregulation appears to be upregulated in patients with cerebral small vessel disease, probably to maintain adequate perfusion in the face of sudden changes in blood pressure. Despite this adaptation, physiological fluctuations of BP in long-standing hypertensive patients may increase subcortical ischaemic damage.

PLATFORM PRESENTATIONS

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BLOOD PRESSURE LOWERING THRESHOLDS FOR STROKE FROM OBSERVATIONAL DATABASES

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Introduction

The level to which blood pressure should be lowered remains unclear. Trials have not answered the question and prospective cohort studies have few events in the lower categories of blood pressure. We used a large electronic database to address this issue epidemiologically.

Methods

A retrospective cohort analysis was conducted in the UK General Practice Research Database from records on over 6 million patients from 400 general practices. Patients, aged 40 and older with a blood pressure reading in 1993 were followed through to 2001 for the occurrence of stroke. Censoring was employed for patients succumbing to stroke, end of record collection or end of study period. Analyses were conducted using Kaplan-Meier plots, hazard rates and Poisson regression allowing for age, sex, history of stroke, myocardial infarction, heart failure and anti-hypertensive therapy at baseline.

Results

The cohort comprised 397,458 patients, of whom 21,855 suffered stroke over the ensuing 8 years. Stroke rates increased monotonically with age and with blood pressure level. However, below blood pressures of 105-114 mmHg systolic and 65-74 mmHg diastolic, stroke rates reached a plateau or increased. Thresholds were observed in all age groups.

Conclusions

Limits to blood pressure reduction for stroke prevention, guided by epidemiology, occur at a systolic blood pressure of 105-114 mmHg and a diastolic of 65-74 mmHg.

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STATINS AND DEMENTIA RISK: MORE OF THE SAME FROM OBSERVATIONAL DATABASES?

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Introduction

Several epidemiological studies have spurred trials of statins to prevent or slow Alzheimer's disease. However, recent evidence from a cardiovascular trial questions the hypothesis. We explored the hypothesis further epidemiologically.

Methods

A population-based nested case-control analysis was conducted in the UK Mediplus database from records on 3.6 million patients provided from general practice since 1992. Incident cases of dementia and 4 controls, individually matched for age and sex and general practice were randomly chosen from three cohorts of people aged 50-89: people on lipid-lowering agents, people diagnosed hyperlipidaemia and not on lipid-lowering agents, and a random group of people without a diagnosis of hyperlipidaemia and not on lipid-lowering therapy. Conditional logistic regression was employed with adjustment for confounders.

Results

From 491 cases of dementia and 1964 controls, using the non-lipid-lowering agent and non-hyperlipidaemic persons as the reference group, the adjusted odds ratio for dementia from statin use was 0.28 (95% CI: 0.17 - 0.48), and from being diagnosed hyperlipidaemic was 0.53 (95% CI: 0.37 - 0.77). Shorter use of statins was associated with more protection.

Conclusions

The inverse duration-response relationship and the reduced risk of dementia from being diagnosed hyperlipidaemic indicate that the finding of lower dementia risk with statin use is spurious. Approaches to overcome the problem of selective prescribing and confounding in observational datasets will be discussed.

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EARLY RECURRENCE OF
CEREBROVASCULAR EVENTS
FOLLOWING A TRANSIENT ISCHAEMIC
ATTACK

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Introduction

Recent studies have suggested the risk of suffering an early recurrent cerebrovascular event following a transient ischaemic attack is far greater than previously reported. We wished to quantify this risk in patients seen at the rapid access clinics in East Glasgow.

Methodology

Over a six-month period, information was taken from referral letters to the rapid access TIA/Stroke clinics at Stobhill Hospital and Glasgow Royal Infirmary. Subsequent clinic letters and results of investigations were reviewed to enable the original diagnosis and presence or absence of a recurrent cerebrovascular event to be recorded.

Results

Of the 372 new referrals seen during the six-month period, 37 (10%) did not attend for appointment, 130 (35%) had a non-cerebrovascular diagnosis and 205 (55%) were deemed to have suffered a probable or definite new TIA (121 (32.5%)) or stroke event (84 (22.5%)). There were 19 recurrent cerebrovascular events giving a recurrence rate of 9% (95% confidence interval 5%-13%). Of these, 10 (5%, CI 2%-8%) occurred within 7 days of the initial episode and 15 (7%, CI 4%-11%) within 1 month. The only associated risk factor for recurrence, using multivariate analysis, was current smoking.

Conclusion

The recurrence of cerebrovascular events following a TIA is likely to be higher than previously thought. It is uncertain which interventions or strategies, if any, can reduce the risk of early recurrent events and further research in this area is required.

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