

Do preoperative ECG abnormalities at pre-assessment predict cardiac complications in patients undergoing major non-cardiac surgery?

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Introduction

Cardiovascular complications are one of the most common causes of morbidity and mortality perioperatively during non-cardiac surgery. This risk significantly increases in those ≥ 65 and those who are frail. NICE and ESC both recommend that all patients ≥ 65 have a preoperative ECG to assess each patient's risk of perioperative cardiovascular complications before any intermediate or high-risk surgery.

Aims

This study aims to assess the risk of perioperative cardiovascular complications in those over the age of 65 with abnormal ECGs. We also assessed 30 and 90 day survival between the 2 groups

Methods

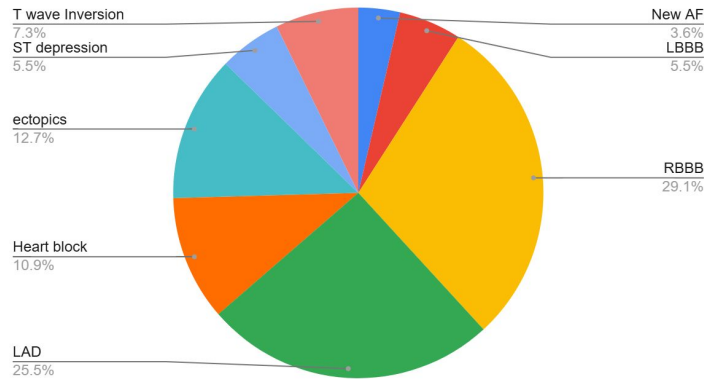
Design: Retrospective study

Participants: Patients who attended combined Geriatrician and Anaesthetist pre-operative assessment clinic for elective colorectal cancer resections between September 2021–September 2023 at Southend Hospital.

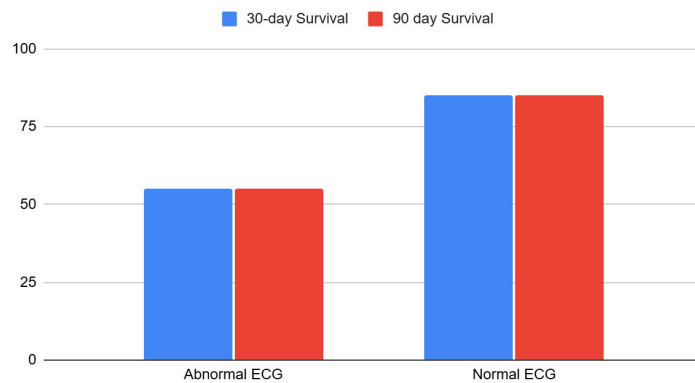
Protocol: Participants required confirmed attendance to the clinic and an ECG performed at the time of pre-operative assessment. Those that underwent surgery, were included and their ECGs analysed for abnormalities. ECG were considered as abnormal which had the following: New AF, LBBB, RBBB, LAD, Heart block, ectopic, ST depression, and T wave Inversion. Discharge letters, operation documentation, medication changes, and any postoperative cardiology letters were then assessed for peri or post-operative cardiac complications: including myocardial infarction, cardiac arrest, acute heart failure, and established new arrhythmias.

Results

Figure 1: Frequency of Pre-op ECG abnormalities



30-day Survival and 90 day Survival



Discussion

140 patients ultimately met our inclusion criteria for our study. 81 patients (58%) had normal ECGs, 59 patients (42%) ECGs were assessed as containing an abnormality (the frequency of abnormalities are shown in figure 1). Neither group developed any perioperative cardiovascular complications. Our secondary outcome, 30 and 90 day survival rate demonstrated no difference between the abnormal and normal Pre-op ECG groups. ECG abnormalities were a common finding in our cohort of patients, and a prevalent finding in older adults. Our findings support the current literature which suggest that although preoperative ECG abnormalities in the over 65 population, alone they do not provide a substantial predictive value in postoperative in-hospital death or perioperative cardiovascular complications.

Conclusion

Our study suggests preoperative ECGs alone were not predictive of perioperative/postoperative cardiac complications in patients undergoing elective colorectal resection for cancer. All of the patients were managed by perioperative Geriatricians without the need of further onward referrals to Cardiology, suggesting a perioperative cost saving.

References

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