DETECTION OF ATRIAL FIBRILLATION WITH AMBULATORY ECG RECORDING – A RETROSPECTIVE SERVICE EVALUATION OF 24 HOURS HOLTER MONITOR AND CARDIAC MEMO RESULTS IN A LARGE DISTRICT GENERAL HOSPITAL

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Introduction Atrial fibrillation (AF) is a global public health priority. An unsolved problem is how to detect paroxysmal AF. Patients presenting with palpitations are usually monitored for a short period of time with conventional 24 hour Holter monitor or 72 hours cardiac memo. As a result, it is likely that AF is being routinely underdiagnosed and undertreated. This service evaluation reviewed the proportion of patients amongst those who are investigated for palpitations/pre-syncope/syncpe by the Cardiology Department in Queen Alexandra hospital (CQAH) with a 24 hours Holter monitor or cardiac memo who have evidence of AF.

Methods Retrospective review of all patients who were investigated with either a 24 hours Holter monitor or 72 hours cardiac memo during August 2019. A total of 232 patients were assessed with 24 hours Holter (n=122) monitor and Cardiac memo (n=108). Average age 63 years (5-94). In 5% of cases (12/232) no documentation of results was found. 5% (10/220) had new diagnosis of AF.

Results A total of 232 patients were assessed with 24 hours Holter (n=122) monitor and Cardiac memo (n=108). Average age 63 years (5-94). In 5% of cases (12/232) no documentation of results was found. 5% (10/220) had new diagnosis of AF.

60% (72/122) of patients investigated with a 24 hours Holter monitor for palpitation (18/122), pre-syncpe (5/122) and syncpe (15/122) were in sinus rhythm (SR) +/- ectopics. No patients with palpitation or pre-syncpe had AF. 4/15 patients with syncpe had a new diagnosis of AF (2) or supraventricular tachycardia (2). 34% (42/122) of Holter monitor were done as a result of a documented arrhythmia, 18/42 of which had known AF. 21% (26/122) of Holter monitor were used to investigate TIA/Stroke, 3/26 had new diagnosis of AF.

70% (75/108) of patients investigated with a Cardiac Memo for palpitations (28/108), pre-syncpe (13/108) and syncpe (15/108) were in SR +/- ectopics. 3/28 with palpitations, 1/13 with pre-syncpe, 1/15 with syncpe had new AF. 2/15 with syncpe who were in SR had a reveal device implanted subsequently. 34% (37/108) were investigated due to TIA/Stroke, all of which were in SR.

Conclusion The number of patients diagnosed with significant cardiac arrhythmia, for example AF, as a result of conventional 24 hours tape and cardiac memo is low even if patients present with symptoms of palpitations, pre-syncpe and syncpe.

As a result of this service evaluation we have applied for a £20,000 grant as part of a ‘NHS Joint Working Project’ to introduce novel, prolonged and home-based ECG monitoring to the department. Patients who are referred to CQAH and require investigation of symptoms of palpitation, pre-syncpe and syncpe will be offered ECG monitoring over up to 3 months with a KardiaMobile 6 lead ECG (by AliveCor) as an alternative to conventional methods described above. A comparison of identification of cardiac arrhythmia, in particular AF and subsequent management change, will be made.

Conflict of Interest None

PROGNOSTIC POTENTIAL OF ELECTROCARDIOGRAPHIC PARAMETERS IN PATIENTS WITH MULTIPLE MYELOMA

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Background Patients with multiple myeloma (MM) can develop cardiac abnormalities, predisposing them to the development of heart failure, arrhythmia or infarction with poor prognosis. The purpose of this study is to evaluate the prognostic potential of electrocardiographic (ECG) parameters in patients with MM.

Methods This study retrospectively included patients with MM from January 2010 to December 2018 in the First Affiliated Hospital of Xian Jiao Tong University. Univariate and multivariate Cox proportional hazard models were conducted to evaluate the relationship between ECG parameters and all-cause mortality in patients with MM.

Results A total of 409 patients were included (mean age: 61.3 ± 9.7 years, 59.1% male). The relationship of ECG parameters, including PR interval, voltage, QRS axis, QRS duration and QTc interval, and all-cause mortality in patients with MM was evaluated. Overall, patients with QTc interval ≥ 400 msec have a significantly higher all-cause mortality compared to those with QTc interval <400 msec (P <0.001). When stratified by International Staging System (ISS), this relationship was true for stages II and III (P <0.01), but not stage I (P > 0.05). MM patients with QRS duration ≥ 120 msec have a higher all-cause mortality compared to those with QRS duration <120 msec for females (P <0.01) but not for males (P > 0.05). PR interval, voltage and QRS axis did not predict mortality.

Conclusions QTc interval was independently associated with all-cause mortality in MM patients, especially when QTc interval was more than 400 msec in more advanced stages II and III. ECG parameters may provide prognostic potential of MM patients and promote the management of patients with MM.

Conflict of Interest None

CLINICAL CODING ERRORS IN ELECTIVE DEVICE IMPLANTATION COSTING

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Introduction Payment by Result (PbR) is a system of funding NHS healthcare. Funding to hospitals is therefore directly paid based on the number of patients treated and clinical activity. Therefore, accurate coding is essential to ensure hospitals receive appropriate payment. This study aimed to determine the number and type of clinical coding errors in elective device implantation costing, and whether these errors may introduce potential over or under payment to hospitals.

Methods This was a cross-sectional retrospective study of device implantation from January 2017 to December 2017. The coding errors were identified by comparing hospital’s coding with the coding supplied by the National Coding Data Registry (NCR), in which the device implantation was coded according to the International Classification of Diseases, 10th Revision, Clinical Modification (ICD-10-CM).

Results A total of 1,237 device implantation were identified. The most common coding error was the incorrect device name (24.5%), followed by incorrect device type (22.2%), incorrect device package (15.4%), and incorrect procedure (13.3%). The average error rate was 37.4%. The most common coding errors were in the procedure code (19.2%), followed by diagnosis code (12.6%) and device name (12.6%).

Conclusion The coding errors are common in elective device implantation costing, and may introduce potential over or under payment to hospitals. Therefore, it is important for hospitals to improve their coding accuracy to ensure they receive appropriate payment.

Conflict of Interest None