THE ROUTINE USE OF ANTIBIOTICS AFTER INSERTION OF A CARDIAC IMPLANTABLE ELECTRONIC DEVICE (CIED): EVIDENCE AND CURRENT PRACTICE

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Background and importance Cardiac implantable electronic devices (CIED) are used for patients with heart block and severe dysrhythmia to improve patient quality of life and survival. However, the implanted devices have been associated with an increased rate of infections and subsequently cause significant morbidity and mortality. Recent guidelines recommend the use of intravenous cefazolin as standard preoperative antibiotic prophylaxis. However, there is no consensus about postoperative antibiotic prescribing to treat infection. The routine practice in our clinical setting is to prescribe antibiotics pre and post insertion according to physician experience and preference. Hypothetically, if such practice continues, it may lead to an increased risk of antibiotic resistance, suboptimal clinical outcomes and higher healthcare costs.

Aim and objectives To investigate the rate of postoperative infection associated with CIED insertion, to find an association between prescribing antibiotics post insertion and postoperative infections and to develop recommendations that may help to optimise antimicrobial prescribing and minimise the consequences of infection and subsequently improve the practice.

Material and methods It this retrospective observational study, patient records (aged ≥18 years old) with complete heart block who were admitted for permanent pacemaker (PPM) insertion were reviewed during the period January 2012 to December 2017. Patient demographic, comorbidities and microbiological reports through screening of blood culture within 90 days of post pacemaker insertion were collected. To find an association between antibiotic post insertion and postoperative infections, the $\chi^2$ or Fisher’s exact test was applied. A p value ≤0.05 was considered statistically significant.

Results Of 130 implanted device cases, 95 were reported as pacemaker (PPM) insertion cases during the study period; 67 (70%) PPM cases were given post insertion antibiotics. No postoperative case of pocket infection or infective endocarditis was reported. Of 5 bacteraemia infections, only 1 case (3%) was reported among the group who was not given antibiotics post insertion (p=0.63).

Conclusion and relevance Antibiotic administration post pacemaker insertion has no added value in terms of infection prevention, and no evidence to support the use of antibiotics post pacemaker insertion. Therefore, this practice is not justified.

REFERENCES AND/OR ACKNOWLEDGEMENTS

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MONITORING THE PRESCRIPTION OF NEW ANTIBIOTICS: THE WORK OF THE ANTIMICROBIAL STEWARDSHIP TEAM IN A THIRD LEVEL HOSPITAL

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Background and importance The prescriptions of new antibiotics should be done with caution as improper use can lead to the emergence of new antimicrobial resistance. The antimicrobial stewardship team (AST) and the commission of infections

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(CI) have a fundamental task of achieving adequate use of these drugs. It is important to establish a suitable circuit for the control of their prescriptions. Knowing how this circuit operates is essential to establish if it is necessary to make any modifications.

**Aim and objectives** To analyse the operation of the prescription/revision circuit for new antibiotics included in the pharmacotherapeutic guide, and to show the adequacy of the prescriptions of antibiotics recently included in the hospital’s pharmacotherapeutic guide.

**Material and methods** Inclusion criteria: prescriptions (January 2018 to September 2019) of ceftaroline, dalbavancin, cefotolozano/tazobactam, ceftazidime/avibactam, tedizolid and isavuconazole. Exclusion criteria: prescriptions in the intensive care unit (which has a different prescription circuit).

The CI and AST decided the indications for the new antibiotics and their prescription circuit. A non-restrictive attitude was decided. Prescription of these antibiotics could be carried out by any specialist, with or without prior advice from the AST. Prescriptions made without AST supervision were reviewed by the AST in 24–48 hours.

The information for review was obtained from medical and electronic prescription records.

**Results** A total of 28 prescriptions were reviewed: 39.3% (n=11) ceftaroline/avibactam, 28.6% (n=8) dalbavancin, 14.3% (n=4) ceftaroline, 7.2% (n=2) cefotolozano/tazobactam, 7.2% (n=2) isavuconazole and 3.4% (n=1) tedizolid. A total of 50% (n=14) of prescriptions were made by the AST and 50% (n=14) were performed by doctors who did not belong to the AST, of which 36% (n=5) had prior consultation with the AST and 64% (n=9) did not consult the AST.

Of the prescriptions that did not receive prior advice from the AST, 55.55% (n=5) were reviewed by the AST. All of the prescriptions (100%, n=14) made by the AST or under their supervision were within the indications established by the CI.

Five of 28 prescriptions were not adequate (2 isavuconazol, 2 ceftaroline, 1 tedizolid). These were prescriptions made without the advice or revision of the AST. Three of the incorrect prescriptions were in August 2018 and one in August 2019.

**Conclusion and relevance** In general, our circuit worked correctly. Some of the prescriptions out of indication were during the holiday period and not all AST members were working. Therefore, this team should operate at full capacity all year round. The adequacy of antibiotics is greater when there is AST prescription or intervention.

**REFERENCES AND/OR ACKNOWLEDGEMENTS**

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