

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

Safa Omran¹, Osama Mukhtar², Samira Mousa³

¹Department of Clinical Pharmacy, ²Department of Infectious Diseases, ³Department of Statistical Research, King Salman Armed Forces Hospital, KSA, contact :safiomran@yahoo.com

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.

	Evidence	Current Practice
Pre-Insertion	<ul style="list-style-type: none"> IV Cefazolin within 60 min before incision¹ Antiseptic skin preparation. 	<ul style="list-style-type: none"> IV Cefuroxime within 60 min before insertion. Antiseptic skin preparation. Local antibiotic (trials).
Post-Insertion	<ul style="list-style-type: none"> Repeat dosing of antimicrobials is not recommended after skin closure 	<ul style="list-style-type: none"> Occasionally Antibiotic course (Ceftriaxon, Cefuroxime, Augmentin) for 5-7 days.

Aim and objectives

- 1 Investigate the rate of postoperative infection associated with CIED insertion.
- 2 Find the association between prescribing antibiotic post insertion and infections.
- 3 To optimize the antimicrobial prescribing and improve the practice.

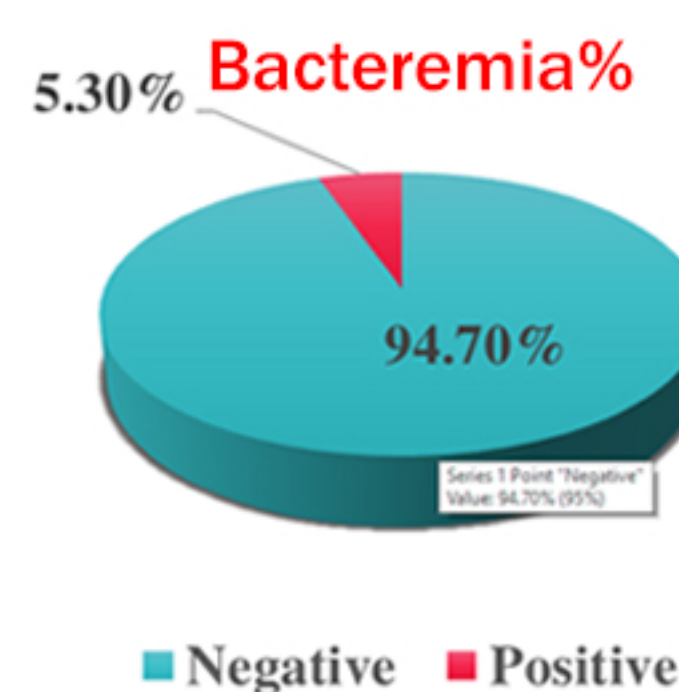
Material and Methods

- 1 It is a retrospective cross sectional observational study.
- 2 Patients' records (aged ≥ 18 years old) with Complete Heart Block (CHB) who were admitted for permanent pacemaker (PPM) insertion were reviewed during the period between Jan 2012 to Dec 2017
- 3 Reports of blood culture within 90 days of the post pacemaker insertion² were collected.
- 4 Chi-Square or Fischer Exact test was applied, a p value ≤ 0.05 was considered as statically significant.

Results

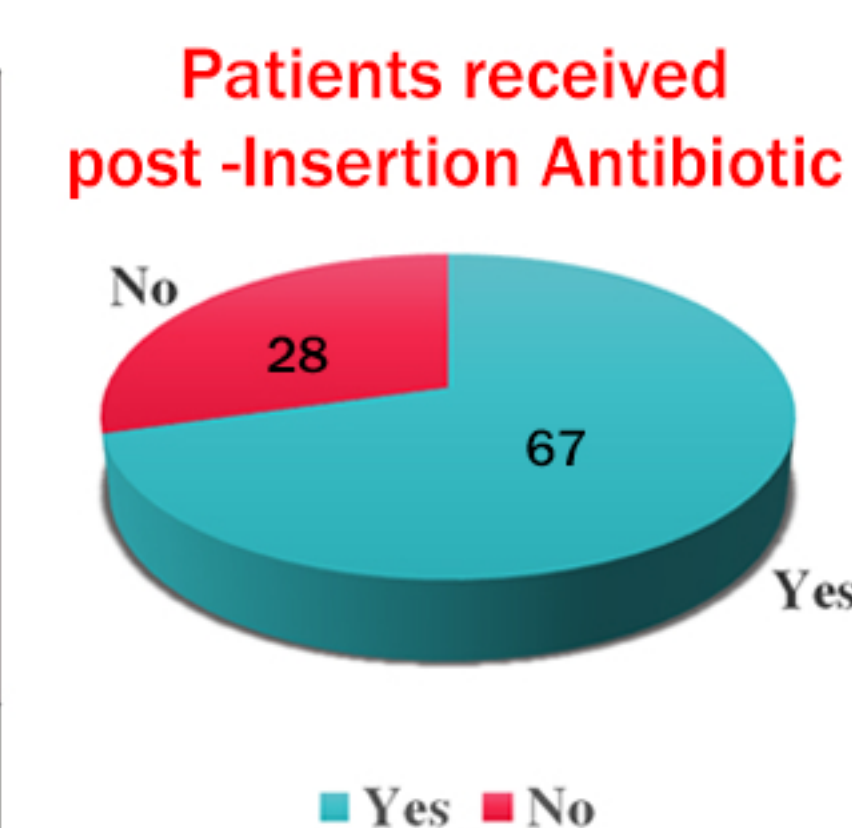
Rate of infection

	Antibiotic given post insertion	No antibiotic post insertion
Number (%)	67/95 (70%)	28/95 (30%)
% pocket infection	0 %	0 %
% Infective Endocarditis	0 %	0 %
% Bacteremia	4/67 (6%)	1/28 (3%)



Association between post insertion antibiotic and infection

Chi-Square Findings		Bacteremia		Chi-Square	P-Value
		Negative	Positive		
Antibiotic post Insertion	No	27	1	0.228	0.63
	Yes	63	4		



Conclusion and relevance

Antibiotic administration post pacemaker insertion has no added value in terms of infection prevention. There is no evidence to support the use of antibiotic post pacemaker insertion, therefore such practice is not justified

References

- 1-CircArrhythmElectrophysiol 2009 Jun;2(3):e13
- 2-Am J Infect Control 2008 Jun;36(5):309, CDC/NHSN (Protocol Clarifications 2013 Jul PDF

