THE PATTERNS AND MANAGEMENT OF CARDIOVASCULAR IMPLANTABLE ELECTRONIC DEVICE (CIED) RELATED INFECTIONS: STUDY FROM A TERTIARY CARE CENTER IN SOUTH INDIA

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Introduction: CIED related infection is a serious complication. CIED implantation rates are on the rise worldwide. The debridement of the site and explant of the device are the gold standard treatment modalities. But, some patients can be managed without device explantation. There are only few studies to identify who can be managed without device explantation.

Methods: Our study is a Retrospective, observational study done at a Tertiary care center in South India. The study population includes the patients who were diagnosed and managed with CIED related infections in our Institute over the past 10 years (i.e. from 2010-2019).

Result: A total of 32 patients were included in the study (22 patients underwent device insertion from our Institute). The mean age was 52.38 years (SD=19.27 years). Males were 23 patients (71.9%). 21 devices were PPI, 6 were AICD and 5 devices were CRT. The commonest presentation was Pus from the Pocket site (20 patients). Other presentations are fever, Heart failure, Erosion of the PG. 1 had vegetation over the tricuspid valve. 13 patients (40.6%) had an evidence of systemic infection. Blood culture has grown positive in only 3, of which 2 had growth of Staph, one had growth of Candida parapsilosis. Culture of the Pus from the PG site was positive in 22 patients (68.8%). The commonest organism was Staphylococcus species (11 patients). Other organisms grown are Acinetobacter, Klebsiella species, Pseudomonas aeruginosa, Burkholderia cepacia which grown in 2 patients each and Achromobacter, Atypical mycobacterium, Serratia grown in one patient each. The cornerstone of the management of CIED infection is antibiotics. Out of the 32 patients, 23 (71.9%) were managed with PG explantation. But Lead Explantation was done only in 15 patients (46.8% of the total population). TPI was done prior to Reimplantation in only 5 patients, out of which Jugular pacemaker was inserted in 3 patients. Reimplantation of the device was done in 14 patients and it was advised in additional 6 patients. 30 patients had successful outcome. Whereas one patient died at the time of Anesthesia induction prior to Wound debridement. One patient had recurrence of infection, which was treated successfully with PG and Lead Extraction. Six patients were on OAC therapy, and six were on antiplatelets. 9 patients stopped the medication prior to the procedure. Rest of the three patients underwent the procedure continuing the medication.

Conclusion: CIED infection is a serious concern. But, the rates of systemic infection are less. The commonest organism isolated was Staph species. Antibiotic therapy is the cornerstone in the management of CIED related infection. But, it will require extraction of the Device completely. However, in the absence of systemic infection, it can be managed successfully without Lead Extraction.