A CASE SERIES OF PER CUTANEOUS EXTRACTION OF LEADS IN PATIENTS WITH INFECTED CARDIAC IMPLANTABLE ELECTRONIC DEVICES WITH SPECTRANETICS EXTRACTION TOOLS.

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Introduction: Endocarditis, lead extraction or lead/pocket infection in cardiac implantable electronic devices (CIEDs), either permanent pacemaker, implantable cardioverter defibrillators (ICD) or cardiac re synchronization therapy (CRT) device is a disease associated with high mortality. The increasing number of patients with CIEDs explains the rising frequency of endocarditis and lead infection. We present 7 cases of CIEDs related infection & our initial experience with per cutaneous extraction of leads with lead locking devices & Tight Rail Rotating Mechanical Dilator sheath.

Methods: Skin incision was taken and dissection was done up to the generator & the generator was extracted. Spectranetics Lead locking device (LLD) (Phillips, San Diego, California) was passed till the tips of leads after cutting off their hubs & was locked. In our cases, RV lead was found stuck proximally at the level of the subclavian - SVC junction & distally at the level of tricuspid annulus & RV posterior wall. 10/11F dilator sheath was passed over the lead to dilate it over the subclavian region so that it could be free of the adhesions. 11F/13F Tight Rail Rotating Mechanical Dilator sheath was passed over the lead. The adhesions along the length of lead, at the level of tricuspid annulus and RV wall were cut off with the help of the dilator sheath and activated rotating blades. Subsequently the leads were withdrawn with gentle traction.

Result: 7 cases (3 pacemakers, 2 CRT and 2 ICD devices) underwent per cutaneous extraction of total 13 leads (7 RV, 5 RA and 1 CS lead). Mean age was 54±23 years, with 43% males & 57% females. 5 cases had pocket site infection & 2 had externalization of the pacemaker lead & generator. In 5 cases single skin incision (at generator) & in 2 cases two skin incisions (at generator & leads) were taken. We observed resistance during the lead extraction at subclavian-SVC junction in 7, tricuspid annulus in 4 & RV wall in 3 cases. All the leads were extracted successfully without any complications. Primary wound closure was done in 5 & secondary closure in 2 cases.

Conclusion: Per cutaneous extraction of leads needs technical skills & familiarity with various hardware devices used in the procedure. With availability of various tools such as lead locking devices & mechanical dilator sheaths has improved success rate of this procedure. The series documents successful lead extraction of the leads with extraction tools & successful healing of their wounds.