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IMPACT OF QUADRIPOlar LEFT VENTRICULAR LEADS ON INTRAPROCEDURAL AND LONG TERM OUTCOMES: RESULTS FROM A PROSPECTIVE REGISTRY

Moderated Poster Contributions

Arrhythmias and Clinical EP Moderated Poster Theater, Poster Hall B1
Saturday, March 14, 2015, 10:30 a.m.-10:40 a.m.

Session Title: Controversies in Clinical Arrhythmias

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Background: Quadripolar (Quad) left ventricular (LV) leads have been approved for implantation in CRT devices in October of 2011 in United States. Limited data is available regarding the real world experience with these lead implantations, especially in the United States.

Methods: All patients undergoing CRT implantations at our center since January 2011 were enrolled in a prospective registry. Demographics, procedural variables and outcomes were collected prospectively in the registry. LV lead was implanted either as a part of a denovo or upgrade CRT. Type of LV lead implanted was at the discretion of the operator and patient preference. Patients who underwent Quad LV lead were compared with an equal number of patients undergoing unipolar/bipolar (Non-Quad) lead implantation during the same time frame. Procedural variables and longterm outcomes were compared between both the groups.

Results: A total of 504 patients were included in the study including 252 patients who underwent a Quad lead implantation and another 252 patients who underwent Non-Quad leads implantation during the same time frame. Mean age of the total population was 67 ±11years with 94 (24%) females. 289 (72%) patients underwent a new device implantation and the rest underwent an upgrade from a prior pacemaker/ICD. There were no differences in the baseline characteristics, age, gender, new vs upgrade procedures between both the groups. Mean fluoroscopic time and the procedural time were significantly shorter for patients who underwent a Quad lead implantation when compared to a Non-Quad lead implantation (24 ±11vs 31 ±17 minutes and 132 ±42 vs 150 ±54 minutes; p<0.001 and p=0.002 respectively). After a mean follow up of 19 months, fewer patients with Quad leads had to be revised compared to the Non-Quad leads (1/0.3% vs 8/3.1% respectively; p =0.03) primarily for higher thresholds and phrenic nerve stimulation.

Conclusion: In this largest, single-center prospective study till date, we found that Quad LV leads as a part of CRT implantation is associated with significant decrease in fluoroscopic (23%) and procedure times (12%) and are less likely to need repeat interventions during longterm follow up when compared to Non-Quad LV leads.