**Procedural Characteristics and Outcomes Following Implantation of Cardiac Electrical Devices of Increasing Complexity: Results from GCOR**

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**Background:** Most series have shown that the complication rates increase as the complexity of Cardiac Implantable Electrical devices (CIED) increases. There is little contemporary Australian data regarding this.

**Methods:** The Genesis Cardiovascular Outcomes Registry (GCOR-Device) prospectively enrolled patients from December 2015–December 2018. This analysis compared patient and procedural data and outcomes by type of CIED: single vs dual chamber, low power pacemakers (PPM) vs high power Implantable cardioverter defibrillators (ICD) and cardiac resynchronisation devices (CRT) vs non-CRT.

**Results:** Of 3831 new implants 57% were dual chamber PPM, 15% single chamber PPM, 5% single chamber ICD, 10% dual chamber ICD, 5% CRTp and 8% CRTD. The procedural characteristics and complication rates were similar for single vs dual chamber and for PPM vs ICD. Complication rates were significantly higher for CRT.

**Conclusions:** For experienced implanters the complication rates do not differ significantly between single and dual chamber devices or between PPM and ICD. CRT remains a more complex procedure with a significantly higher complication rate.

<table>
<thead>
<tr>
<th>PPM vs ICD</th>
<th>CRT vs ICD</th>
<th>PPM vs CRT</th>
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<tbody>
<tr>
<td>Procedure Time</td>
<td>35.25 vs 36.94 vs 69.44 vs ns</td>
<td>p = 0.05</td>
</tr>
<tr>
<td>Fluoroscopy Time</td>
<td>2.72 vs 2.82 vs 14.24 vs ns</td>
<td>p = 0.05</td>
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<tr>
<td>Major Complications</td>
<td>3.70% vs 3.20% vs 6.00% vs ns</td>
<td>p = 0.05</td>
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**Prophylactic Radio-Frequency Ablation (RFA) before an Implantable Cardioverter Defibrillator (ICD): A Case Series**

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**Background:** We have limited data on concurrent catheter ablation in patients undergoing an ICD.

**Methods:** Retrospectively, we compared the number of patients receiving an ICD therapies- shock or ATPs or both after an ICD in patients who received an additional RFA (substrate homogenisation) before the procedure (Group A, n = 43) and the group which did not (Group B, n = 64).

**Results:** Baseline demographic variables were comparable. Group A had patients predominantly of ischaemic cardiomyopathy (high-risk substrate for SCD, 77% vs 55%, p = 0.03) and patients for secondary prevention (98% vs 58%, p < 0.001). Either group received comparable number of anti-arrhythmic drugs after the ICD implant.

Though the patients who received ICD shocks, ATPs or either of them were lesser in Group A the numbers could not reach statistical significance (24%, 19%, 30% vs 27%, 20%, 28%, p = 0.8). Similarly, the mean number of ICD shocks were considerably lower in Group A (0.37 ± 0.8 vs 1.2 ± 3, p = 0.055).

An additional analysis of patients comprising only secondary prevention (42 vs 27) revealed that ARVC was the only predictor of a patient receiving an ICD shock.

**Conclusions:** Our data, though small, reveals significantly lesser number of ICD therapies (shocks or ATPs) post-implant in patients for a documented VA who also received a prophylactic RFA. The implications of this finding are numerous and must encourage multi-center RCTs in large numbers to address the research question.

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