Title:
Factors Influencing Management of Direct Oral Anticoagulants in Patients Undergoing Cardiac Implantable Electronic Device Procedures

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Session Title:
Direct Oral Anticoagulant Management in Patients Undergoing Cardiac Implantable Electronic Device Procedures
Slot:
F 16: Friday, 28 July 2017: 2:30 PM-3:45 PM
Scheduled Time:
2:50 PM

Keywords:
cardiac implantable electronic device (CIED), cardiology and direct oral anticoagulant (DOAC)

References:


from the randomized evaluation of long-term anticoagulation therapy (RE-LY) randomized trial. *Circulation*, 126(3), 343-348. doi: 10.1161/CIRCULATIONAHA.111.090464


**Abstract Summary:**
Without consensus guidelines in many parts of the world, how have providers decided how to manage direct oral anticoagulants (DOACs) in the periprocedural period for cardiac implantable electronic device (CIED) procedures? This study evaluated for any statistically significant correlations with patient comorbidities, procedure type, concurrent medications, year, or facility.

**Learning Activity:**

<table>
<thead>
<tr>
<th>LEARNING OBJECTIVES</th>
<th>EXPANDED CONTENT OUTLINE</th>
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<tbody>
<tr>
<td>Describe factors that impact the bleeding and thrombotic risks in the periprocedural setting for patients on anticoagulation.</td>
<td>Review of demographic factors that could influence DOAC management in the periprocedural setting around the time of CIED procedures.</td>
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<td>Analyze contributing factors that contribute to the decision-making process in regard to the periprocedural management of DOACs surrounding CIED procedures.</td>
<td>Outline of existing research has reported in regard to the impact of these patient specific factors on DOAC management</td>
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<td>Description of our study objectives, methods, and results.</td>
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<td>Discussion of our results in the context of the existing literature on the subject.</td>
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Abstract Text:

**Purpose:** Existing literature on anticoagulation management in the periprocedural setting suggests that decisions should be individualized to patient and procedure specific risks, yet there are limited studies on this subject (Baron, Kamath, & McBane, 2013; Daniels, 2015). This represents an opportunity for nursing science and leadership to standardize care and improve patient outcomes.

**Methods:** To gain more knowledge on how we have been choosing to manage DOACs in the periprocedural setting, we performed a retrospective chart review of all adult patients prescribed DOACs at the time of CIED procedures at our three facilities from January 2012-June 2016. We analyzed frequency data regarding how many days the DOAC was held before and after the procedure, and if they were bridged with heparin. We also collected data on contributing factors such as comorbidities, concurrent medications, calculated CHA2DS2-VASc and HASBLED scores, age, procedure type, facility location, and year to determine if there were any correlations between these factors and DOAC management decisions.

**Results:** Our study had a total of 309 qualifying cases. When analyzing for any contributing factors that were correlated with DOAC management utilizing Type 3 GEE analysis, we found the following statistically significant relationships: Subjects on dual antiplatelet therapy had their DOAC held for significantly less days after the procedure; subjects receiving a defibrillator implant had their DOAC held for significantly more days after the procedure; subjects receiving a pacemaker generator change had their DOAC held for significantly less days after the procedure; subjects receiving a defibrillator generator change had their DOAC held for significantly less days after the procedure.

**Conclusion:** Our results found that the type of procedure and the use of dual antiplatelet therapy were significantly related to DOAC management decisions in the perioperative period surrounding CIED procedures. Although research has shown that the bleeding risk of the procedure and the patient’s renal function should be taken in to consideration, we did not find a statistically significant correlation with these factors and DOAC management (Heidbuchel et al., 2013). To ensure patient safety in the future, we would recommend that professional societies develop consensus guidelines on how best to manage DOACs in the periprocedural setting to assess for risk factors and to standardize care.