

Contemporary Management of Cardiac Implantable Electronic Device Infection:

A Survey of American College of Cardiology Members and Primary Care Physicians (COGNITO Study)

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Disclosures

Honoraria:

- Medtronic
- BSC
- Abbott
- Biotronik
- Philips



Background and Objective

- Infections after placement of cardiac implantable electronic devices (CIED) remains a significant complication with increased risk of mortality and cost burden
- Definitive therapy of CIED infection includes CIED extraction which is recommended by multiple guidelines
- A global survey found that respondents, regardless of region, did not fully comply with current guideline recommendations with a compliance rate of 68.9%
- A recent US Medicare analysis demonstrated a lack of guideline adherence with only 1 in 5 patients with a CIED infection undergoing extraction
- The COGNITO study assesses the current practice of US-based physicians related to the diagnosis and management of CIED infections and explore potential barriers to extraction



Methods

- COGNITO study is an ACC survey (based on a previous global EHRA/ESC needs assessment survey) to collect data from US physicians related to the diagnosis and management of CIED infections
- Survey included questions based on knowledge and experience with CIED infection patients, including case scenarios
- Database sources were used to invite cardiologists (non-EPs), electrophysiologists (EPs), and primary care physicians (PCPs); sampling techniques and screener questions were used to determine eligibility
- Online survey was conducted between February 11 – March 10, 2022
- A total of n=387 respondents completed the survey for an overall response rate of 20% including 178 non-EP cardiologists, 134 EPs, and 75 PCPs



Results

CIED Patient Experience

- Approximately 75% of these physicians have some level of experience managing CIED patients
- 100% of EPs have experience with CIED patients and nearly all (98%) implant CIEDs
- 66% of cardiologists (non-EP) and only 39% of PCPs had experience managing these patients
- Only 19% of these physicians have performed lead extractions

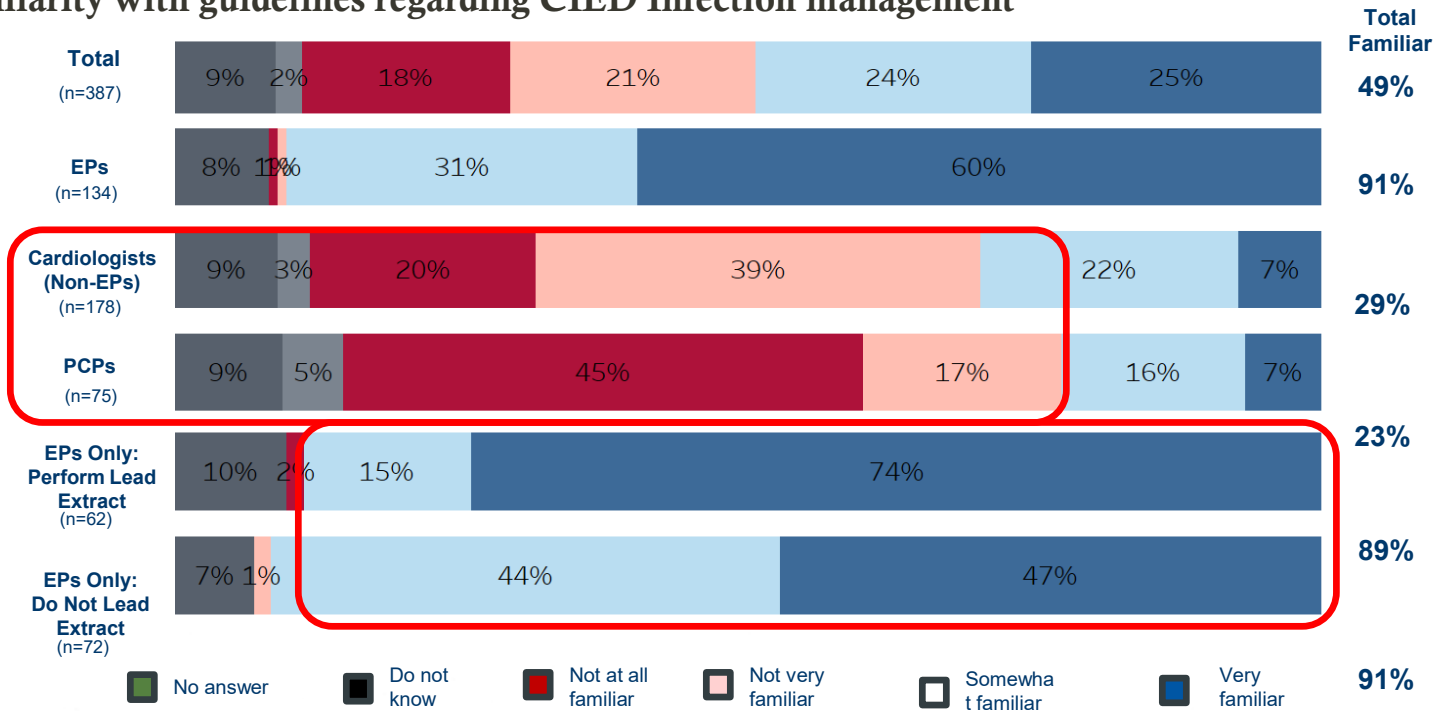
CIED infection rate awareness

- Approximately 46% of the physicians reported that the annual infection rate at their institution was less than 1%
- One-third of the physicians indicated that they were not sure or NA, mostly PCPs and cardiologists (non-EPs)



Results

Familiarity with guidelines regarding CIED Infection management



Results

CIED Infection management/referral

After diagnosing a patient with CIED pocket infection

- Approximately 7 out of 10 clinicians (69%) would refer the patient to a device specialist who has expertise in CIED management
- Less than half (44%) would refer the patient to an infectious disease specialist for plan therapy recommendation
- 22% of physicians (mostly EPs) would manage the patient on their own

Perceived risk of CIED extraction

- More than half (62%) believe that lead extraction procedures have a medium (1-5%) risk of major complications
- 20% of physicians believe that lead extraction procedures are high risk (6-10%)



Results

Patient Case Scenario

Patient with a pacemaker implanted 7 years ago, presents with fever and a pacemaker implant site. What would your next step typically be in this scenario?

Antibiotic treatment, complete CIED system removal

Open the pocket and clean it out, leaving the pacemaker in situ

Antibiotic treatment, remove the generator, cap the leads

Antibiotic treatment alone

Reassure and reassess in 4 weeks

Other

No answer

- 64% of clinicians indicated antibiotic treatment and complete CIED removal (83% of EPs) should be the next step
- Approximately 50% of non-EP cardiologists and 70% of PCPs did not recommend guideline directed treatment



Results

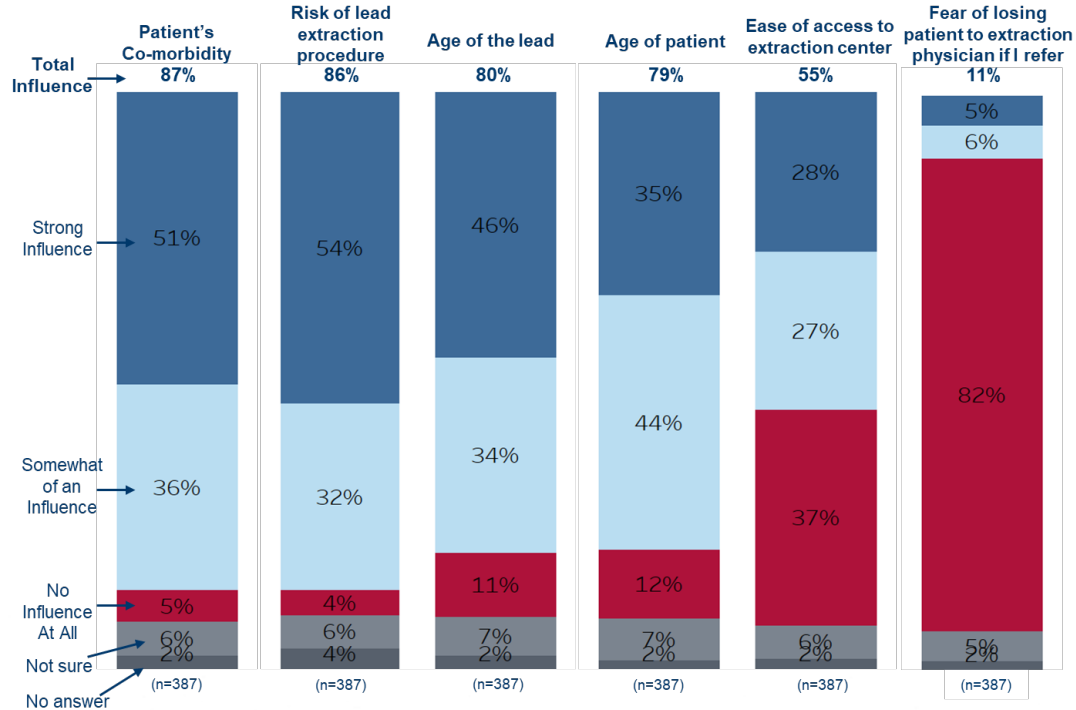
Institutional guideline-based protocols for CIED infection

- Clinicians were divided on whether their institution/department has guidelines-based protocols for managing patients with CIED infections.
- 30% of physicians reported that there were guideline-directed care protocols for CIED infection patients
- Two-thirds of the physicians reported that either their institution/department did not have these protocols or that they did not know



Results

Factors that influence to consider CIED extraction (or referral for extraction)



Conclusions

- There are gaps in familiarity of guidelines as well as practical management of CIED infection with several non-extracting physician groups.
- Additionally, there is a lack of care pathways and other mechanisms in place for the management of CIED infection patients at most institutions.
- Addressing discrepancies, including guideline education and streamlining care/referral pathways, will be a key factor to bridging the gap and improving CIED infection patient outcomes.



Thank you

