
Cardiac Lead Extractions Safer in High Volume Centres



New research published in European Heart Journal indicates that cardiac lead extraction is safer in a high volume centre compared to a low volume centre – where patients who undergo the procedure have doubled risk of death while in hospital. The European Lead Extraction ConTrolled (ELECTRa) registry of transvenous lead extraction (TLE) outcomes was conducted by the European Heart Rhythm Association (EHRA) of the European Society of Cardiology (ESC) under the EURObservational Research Programme (EORP).

See Also: [Study Shows Efficacy of Intravascular Ultrasound-guided PCI](#)

TLE is the gold standard treatment for infections related to cardiac implantable electronic devices such as pacemakers or defibrillators. It may also be required when leads malfunction. It is a percutaneous procedure during which leads are extracted from the veins. In Europe, most centres have only recently started performing TLE and data is lacking on indications, techniques and success rates.

The ELECTRa registry included 73 centres from 19 countries which enrolled 3,555 consecutive patients, of whom 3,510 underwent TLE. The primary objective was to evaluate the acute and long-term safety of TLE. Secondary objectives were to describe the characteristics of patients, leads, indications, techniques, and outcomes. The complication rate in low and high volume (30 or more TLE per year) centres was compared.

Data was collected using a web based system. No specific protocol for the procedure, materials, techniques of extraction, or treatment after the procedure was mandated during this observational study. Patients were followed up 12 months after discharge to assess long-term safety and efficacy of TLE. Researchers reported these key findings:

- The rate of in-hospital procedure-related major complications was 1.7%, including a mortality rate of 0.5%, with no significant differences between high and low volume centres.
- High volume centres had significantly lower overall in-hospital major complications (2.4% vs. 4.1%) and deaths (1.2% vs. 2.5%) compared to low volume centres.
- In multivariable analysis, extraction in a low volume centre was associated with a doubled risk of death from all causes during the hospital stay and a doubled risk of clinical failure of the procedure.
- Procedure-related major complications and deaths were more common in women (odds ratio [OR] 2.11), and lead dwell time more than 10 years (OR 3.54).

In addition, the overall efficacy of TLE was high, with 97% clinical and 96% complete radiological success rates. High volume centres achieved radiological (96.2% vs. 93.4%) and clinical (97.3% vs. 94.3%) success more frequently than low volume centres. "TLE is safe and effective, with a low incidence of life-threatening complications. Outcomes may improve even further if centres perform at least 40 to 50 procedures per year," said lead author Dr. Maria Grazia Bongiorni, director of the Cardiology, Cardio Thoracic and Vascular Department, University Hospital of Pisa, Italy.

Source: [European Society of Cardiology](#)

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