Complications of Per-Oral Endoscopic Myotomy: Experience From a Single High-Volume Center

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BACKGROUND

- Per-oral endoscopic myotomy (POEM) is a safe, effective, minimally invasive therapy in the treatment of achalasia and other esophageal dysmotility disorders.(1-6)
- Reporting of adverse events (AE) associated with POEM is limited and inconsistent.
- Goals of study:
  - Present our own major AE
  - Review the literature for other reported AE
- Hypothesis: POEM remains a safe and effective treatment modality in experienced hands

METHODS

AE were graded by American Society for Gastrointestinal Endoscopy (ASGE) criteria as mild, moderate, or severe. For this study:

Clinically Significant AE = ASGE "Moderate" + ASGE "Severe"

Retrospective chart review of consecutive POEM cases
- Single surgeon-endoscopist team
- Timeframe: June 10, 2011 – July 19, 2021

Literature review by keyword
- Predefined selection criteria
- Aggregation by diagnosis

RESULTS

Our Series: 126 cases
- Overall AE: 14 (11.1%)
- Severe AE: 2 (1.6%)
  - Cardiac arrest from capnopericardium (1)
  - Necrosis of esophageal wall (1) → esophagectomy
- Moderate AE: 2 (1.6%)
  - Submucosal tunnel hemorrhage (2) → repeat endoscopy

Clinically Significant AE = 4/126 (3.2%)

Literature Review:

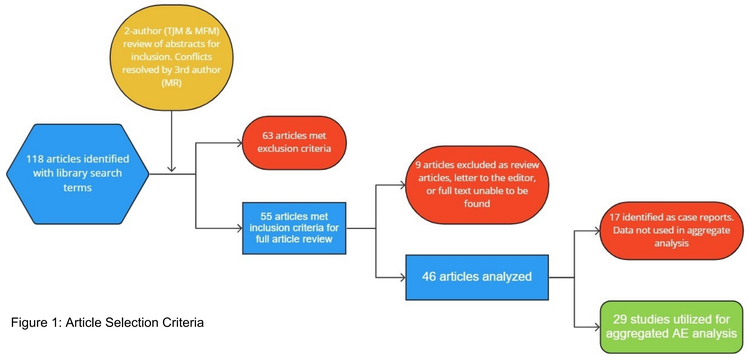


Figure 1: Article Selection Criteria

- 29/118 articles selected
- 5079 patients were identified who underwent POEM
  - Overall AE: 1593 (31%)
  - Clinically Significant AE: 124 (2.4%)

Discussion

POEM remains a safe and effective procedure with an acceptable overall AE rate and low incidence of clinically significant AE in experienced hands. Clinically significant AE rates in our series are consistent with published data. AE are likely under-reported and vary widely in definition and severity. Specifically, minor AE may not be captured accurately because they are rarely clinically relevant or fit into existing grading systems. This highlights the need for an AE lexicon that captures POEM's unique characteristics and encourages accurate identification and reporting of the AE that pertain to it.

Limitations
- Single institution, surgeon-endoscopist team
- Multiple reported AE and management strategies not captured by ASGE criteria

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