Early (<4 Weeks) Versus Standard (≥ 4 Weeks) Endoscopic Drainage of Pancreatic Walled-Off Fluid Collections: A Systematic Review and Meta-analysis

Daryl Ramai, MD, MSc, Ikponmwosa Enofe, MD, Smit S. Deliwala, MD, Daniel Mozell, MD, Antonio Facciorusso, MD, PhD, Paraskevas Gkolfakis, MD, Babu P. Mohan, MD, Saurabh Chandan, MD, Melissa Previtera, MLIS, Marcello Maida, MD, Andrea Anderloni, MD, Douglas G. Adler, MD, FACG, FAGA, FASGE, Andrew Ofosu, MD.

Gastroenterology & Hepatology, University of Utah Health, Salt Lake City, UT, USA. Department of Gastroenterology and Hepatology, Loyola University Medical Center, Chicago, Il, USA. Internal Medicine, Hurley Medical Center, Flint, MI, USA. Internal Medicine, Elmhurst Hospital, Elmhurst, NY, USA. Section of Gastroenterology, Department of Medical Sciences, University of Foggia, 71122 Foggia, Italy. Department of Gastroenterology, Hepatopancreatology, and Digestive Oncology, CUB Erasme Hospital, Université Libre de Bruxelles (ULB), Brussels, Belgium. Division of Gastroenterology & Hepatology, CHI Health Creighton University Medical Center, Omaha, NE, USA. University of Cincinnati Libraries, Donald C. Harrison Health Sciences Library, Cincinnati, OH, USA. Gastroenterology and Endoscopy Unit, S. Elia-Raimondi Hospital, Caltanissetta, Italy. Digestive Endoscopy Unit, Humanitas Clinical, and Research Center - IRCCS, Milano, Italy. Center for Advanced Therapeutic Endoscopy (CATE), Porter Adventist Hospital/PEAK Gastroenterology, Denver, Colorado. Division of Digestive Diseases, University of Cincinnati, Cincinnati, OH, USA.

THE NEED

- Previous studies have demonstrated that the ideal time for drainage of walled off pancreatic fluid collections is 4-6 weeks after its development.

- However, some pancreatic collections, including pancreatic walled-off necrosis (WON), require earlier drainage.

- Nevertheless, the optimal timing of the first intervention is unclear, and consensus data are sparse.

- The aim of this study was to evaluate clinical outcomes and safety of endoscopic ultrasound (EUS) - guided drainage of pancreatic fluid collections < than 4 weeks after its development compared to ≥4 weeks after its development..

METHODS

- Search strategies were developed for PubMed, EMBASE, and Cochrane Library databases from inception.

- Outcomes of interest included technical success defined as successful endoscopic placement of LAMS, clinical success defined as reduction in cystic collection size, and procedure-related adverse events.

- A random effects model was used for analysis and results were expressed as odds ratio (OR) along with 95% confidence interval (CI).

Compared to early drainage (< 4 weeks), endoscopic drainage of pancreatic fluid collections is technically more efficacious when performed at least 4 weeks after development, with a shorter hospital length of stay.

SEARCH RESULTS
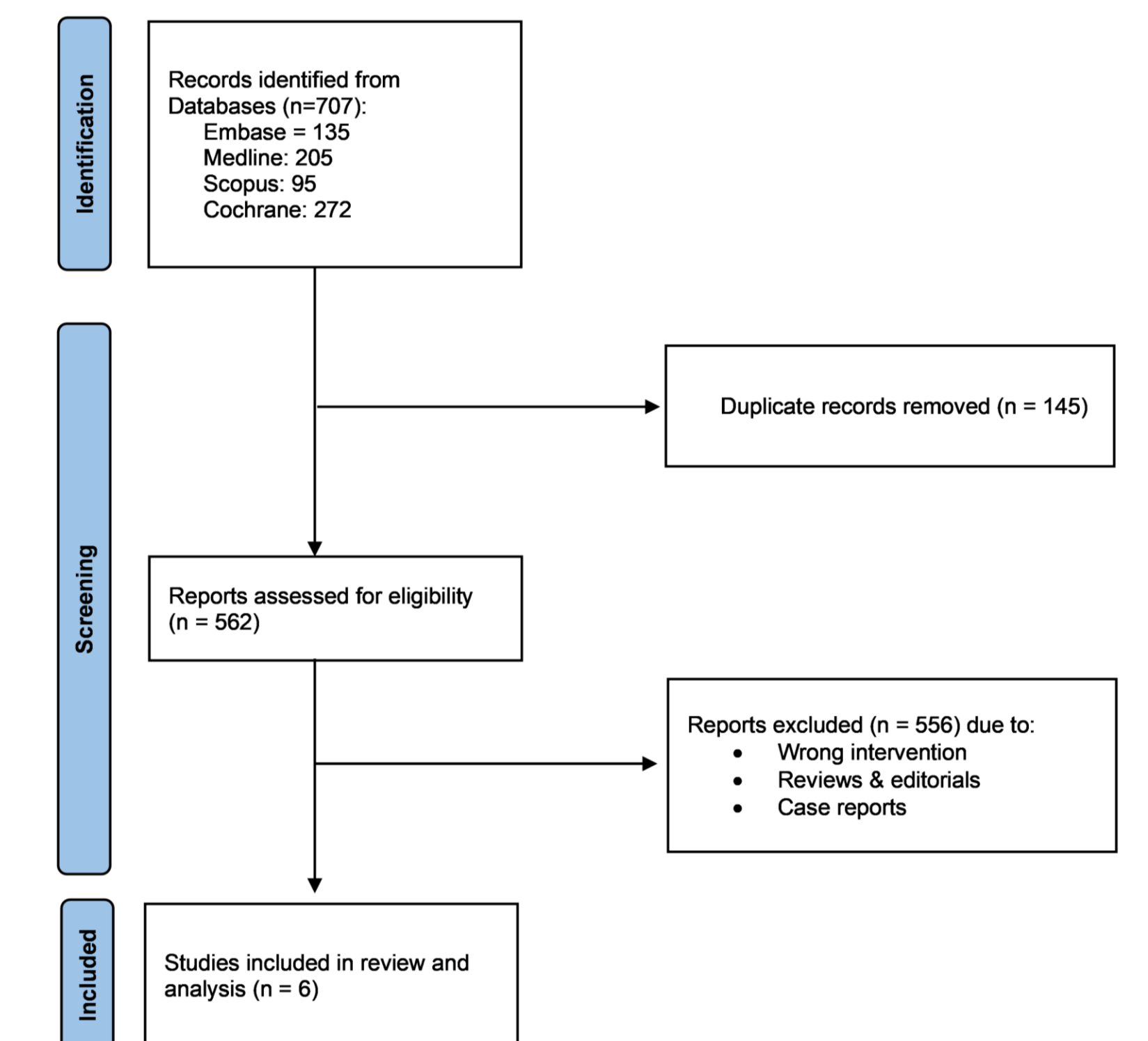
RESULTS

- 182 patients (28.9%) were enrolled in the early drainage cohort and 448 (71.1%) patients in the standard drainage cohort.

- The mean fluid collection size was 143.4 ± 18.8 mm for the early cohort vs 128 ± 19.7 mm for the standard cohort.

- Overall, technical success favored standard drainage over early drainage. Clinical success did not favor either standard drainage or early drainage.

- With regards to adverse events, there was no statistically significant difference in overall adverse events or mortality.

- Hospital stay was longer for patients undergoing early drainage compared to standard drainage (23.7 vs 16.0 days, respectively).