Safety and Efficacy of the Novel EndoRotor Device for the Treatment of Walled-Off Pancreatic Necrosis (WOPN): A Systematic Review and Meta-Analysis

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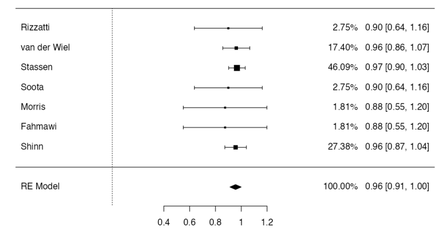
THE NEED

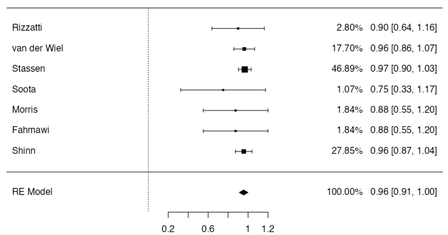
- Debridement of infected walled-off pancreatic necrosis (WOPN) is indicated to treat and prevent sepsis-related multi-organ failure.
- The EndoRotor (Interscope Medical, Inc., Worcester, MA, United States) is a novel automated mechanical endoscopic system designed for use in the gastrointestinal tract for tissue dissection and resection with a single device.
- The aim of this study was to evaluate the efficacy and safety of the EndoRotor® powered endoscopic debridement system to remove solid debris under direct endoscopic visualization.

METHODS

- Search strategies were developed for PubMed, EMBASE, and Cochrane Library databases from inception.
- Outcomes of interest included technical success defined as successful use of device for debridement, clinical success defined as complete debridement and cyst resolution, 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).

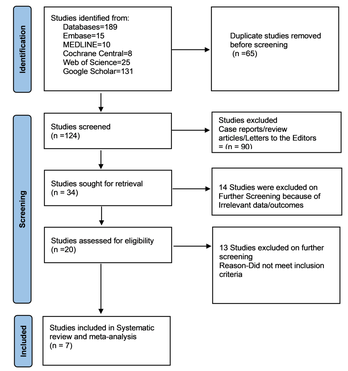
The novel EndoRotor device appears to be safe and effective for treating pancreatic necrosis, requiring less debridement sessions when compared with conventional instruments.





Article	Bleeding	Pneumoperitoneum	Peritonitis	Pleural effusions	LAMS Placement Issue	Stent Perforation
Rizzatti et al.	0	0	0	0	0	0
van der Wiel et al.	0	0	0	0	0	0
Stassen et al.	1	1	0	0	1	0
Soota et al.	0	0	0	0	1	0
Morris et al.	0	0	0	0	0	0
Fahmawi et al.	0	0	1	1	0	0
Shinn et al.	6	0	0	0	1	1

SEARCH RESULTS



RESULTS

- A total of 7 studies (n = 79 patients) were included.
- The mean WOPN size was 154.6 ± 34.0 mm, while the mean procedure time was 71.4 minutes.
- The mean number of necrosectomy sessions required was 2.2 (range 1 to 7).
- The pooled rate of clinical success was 96% (95% CI 91-100%, I2 = 0%) with a pooled technical success rate of 96% (91-100%, I2=0%).
- The pooled procedure-related adverse event rate was 8% (2-14%, I2 = 6%), which included procedure-associated bleeding, pneumoperitoneum, peritonitis, pleural effusion, and dislodgement of LAMS.