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INTRODUCTION

- Enterocutaneous fistulas (ECFs) are a challenging complication following GI disease or surgery
- Traditional management is largely surgical, however endoscopic techniques have been emerging to close ECFs

We performed a scoping review to systematically evaluate the current literature on enterocutaneous fistulas by analyzing procedural approaches, success rates, and clinical outcomes.

METHODS

- PRIMSA guided literature search
- Utilized Embase, Web of Science, PubMed, Cochrane Library, and hand-picked literature
- **Inclusion Criteria:** original papers and published abstracts describing endoscopic management of enterocutaneous fistulas (defined as small intestine to skin)
- **Exclusion Criteria:** other fistula types, other forms of management (i.e. surgical), animal studies, review papers
- Articles were screened by two reviewers with a third resolving conflicts

RESULTS

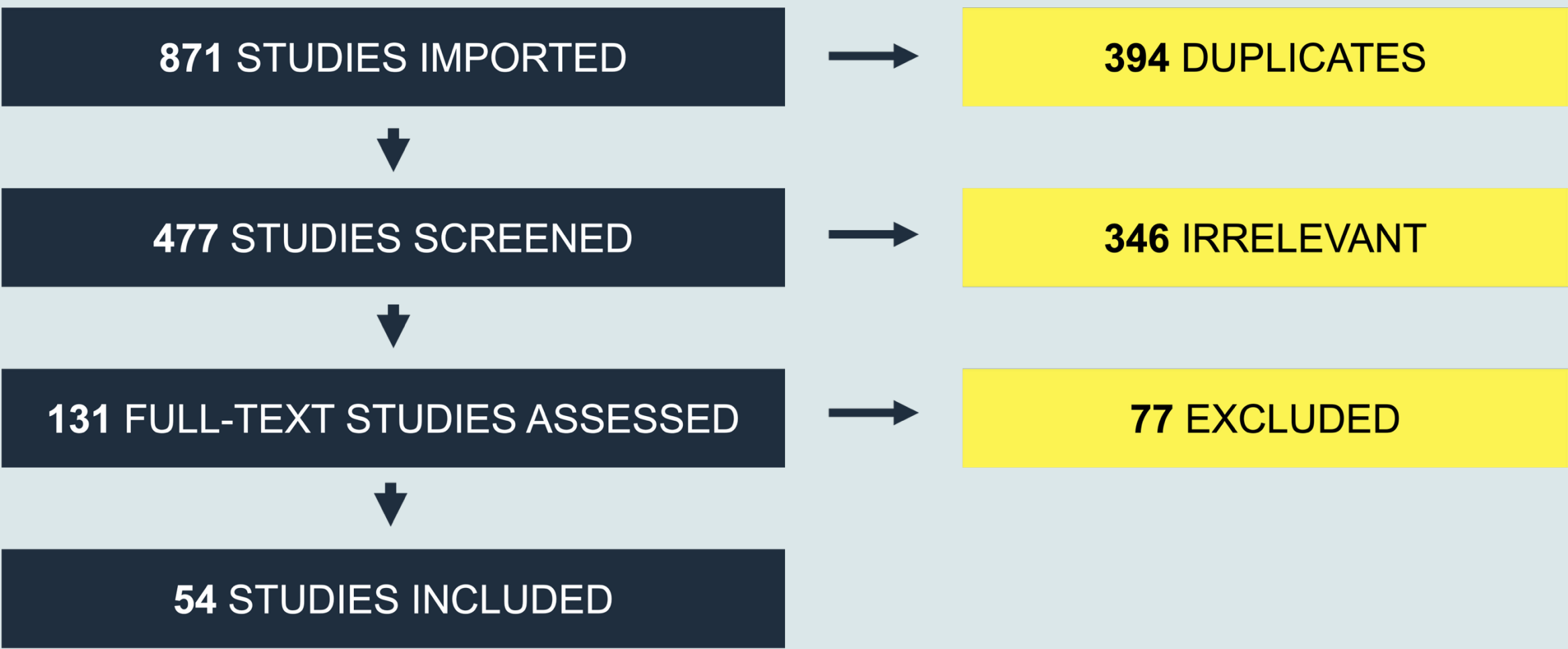


Figure 1: PRISMA framework for article analysis

Total Articles	54
Study Type	
Manuscripts	21
Abstracts	25
Study Design	
Case Report	41
Case Series	4
Retrospective Study	9
Total Included Patients	84
Duodenocutaneous Fistula	24
Jejunocutaneous Fistula	15
Iliocutaenous Fistula	27
Unspecified Enterocutaneous Fistula	18

Table 1: Study and patient information

Treatment Type	Patients	Closure After Primary Intervention	Closure After Multiple Endoscopic Interventions	No Endoscopic Closure or Closure after Surgery
Over–The-Scope Clip (OTSC)	23	16 (69.6%)	4 (17.4%)	3 (13.0%)
Stent	11	5 (45.5%)	2 (18.2%)	4 (36.4%)
Traditional Clips	2	1 (50.0%)	0	1 (50.0%)
Fistula Plug	10	7 (70.0%)	1 (10.0%)	2 (20.0%)
Endoscopic Suture	10	10 (100.0%)	0	0
Endoscopic Vacuum-Assisted Closure	3	3 (100.0%)	0	0
Other	10	6 (60.0%)	2 (20.0%)	2 (20.0%)
Multiple Modalities	15	8 (57.1%)	5 (35.7%)	1 (7.1%)

Table 2: Intervention types and success rates

ADDITIONAL FINDINGS

- Multiple modalities often combined OTSC, traditional clips, argon plasma coagulation, and cyanoacrylate glue
- Fibrin glue was utilized by 9 patients
- 8 patients with unsuccessful closure reported reduced drain output
- No significant difference was noted between fistula type and success (p=0.935)
- Novel modalities (classified as “other”) include adipose derived regenerative cell therapy, single channel suturing devices, endoscopic needle electrocautery knife, and other niche endoscopic interventions

CONCLUSIONS

- Fistula location varies widely, with interventions successfully applied across the small bowel
- OTSC showed strong clinical utility, with high primary and secondary success
- Endoscopic suture and vacuum-assisted closure demonstrated the highest primary success rates
- Multiple modalities demonstrated strong primary and secondary success, highlighting the potential benefits of stacking treatment types
- Novel therapies such as adipose-derived regenerative cell therapy are emerging as promising options
- Future studies are needed to further define the optimal treatment selection based on fistula size and location.

REFERENCES

Please scan the QR code to view included articles



The authors do not declare any conflict of interest