

Device-Assisted Enteroscopy (DAE) in the Surveillance of Intestinal Polyposis in Peutz-Jeghers Syndrome

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Introduction

- Peutz-Jeghers Syndrome (PJS) is an autosomal dominant, genetic disorder characterized by the formation of hamartomatous polyps in the GI tract.
- Small bowel polyps are a source of significant morbidity and mortality due to complications including intestinal obstruction, intussusception, bleeding, and malignant transformation.
- Surveillance of intestinal polyposis in patients with PJS has not been well-described; although, multiple medical centers perform a significant volume of device-assisted enteroscopy (DAE) each year.
- We hypothesized that DAE can be used as a minimally invasive, efficacious method for small bowel hamartomatous polyp surveillance and resection in patients with PJS.

Methods

- We performed a retrospective study of intestinal polyp surveillance with DAE in PJS patients across 3 U.S. referral centers from 2007 to 2022.
- Medical chart review was performed to abstract patient characteristics and procedural data.
- The risk of complication associated with polypectomy for intestinal hamartomas was the primary endpoint. The rate of laparotomy in PJS patients prior to surveillance with DAE was compared to laparotomy after enrollment in a DAE surveillance program.
- Secondary endpoints included number of hamartomas, size of hamartomas, location/distribution of hamartomas, procedure time for DAE, and rate of total enteroscopy.

Results

Table 1. Procedural Data

	Total Procedures (n = 72)
Device-Assisted Enteroscopy	
Anterograde	41
Retrograde	31
Number of polypectomies (mean)	4
Overall complication rate (%)	3
Average time to follow-up (years)	2.5
Number of laparotomies after enrollment	2

- 24 patients had 72 procedures in total. 18/24 (75%) of patients encountered had required previous laparotomy for complications of small bowel hamartomas. Following prophylactic polypectomy, only one patient required laparotomy which was indicated for acute perforation following polypectomy.



Figure 1. Hamartomatous polyp in the distal jejunum removed with saline injection-lift technique and hot snare polypectomy.



Figure 2. Hamartomatous polyp in the ileum removed with saline injection-lift technique and hot snare polypectomy.

Discussion

- In this patient cohort, prophylactic removal of small bowel hamartomas >10 mm in size by DAE resulted in prevention of subsequent laparotomy for complications of hamartomas.
- The risk of complication from polypectomy in the small bowel was 3% per polypectomy including one acute perforation requiring surgery and one hospital admission for serositis syndrome.

Conclusions

- Prophylactic removal of large hamartomas from the small bowel by DAE is a proactive approach which may decrease the need for repeated laparotomy in patients with PJS for complications related to small bowel hamartomas.
- This method is involving into a standard-of-care measure for this patient population per society guidelines.

References

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