

An Evaluation of Outcomes following Endoscopic Balloon Dilatation of Strictures in Crohn's Disease Patients in a Tertiary Irish Hospital

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Introduction

Endoscopic balloon dilatation (EBD) is an established treatment for Crohn's Disease (CD). Studies suggest dilatation of anastomotic strictures, shorter stricture length, and bigger dilatation diameters are associated with technical success. (1-4) Similarly, dilatation accompanied by subsequent escalation of medical therapy is associated with better outcomes. (5)

Aim

To evaluate outcomes following endoscopic balloon dilatation of strictures in patients with Crohn's disease.

Methods

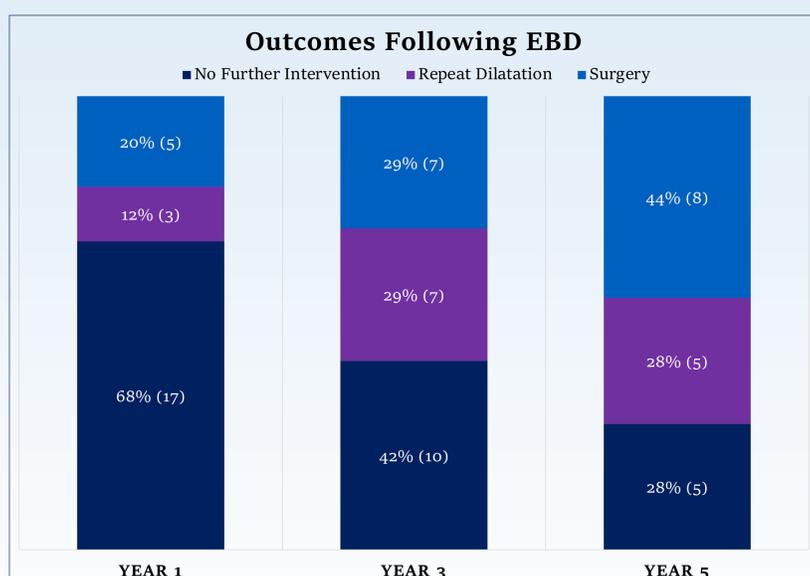
A retrospective study of CD patients who underwent EBD of strictures in Tallaght University Hospital between the years 2012 – 2020.

'Dilatation' was cross referenced with 'Crohn's', on the endoscopic report database. This yielded 23 patients who had undergone 45 EBDs. If the patient had 2 separate and distinct strictures, noted at different endoscopies, these were included individually. Consequently, the outcomes from 27 EBDs were recorded.

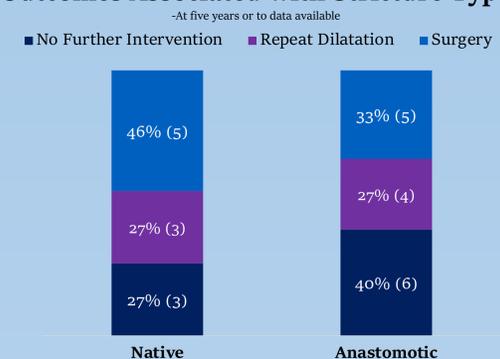
Details about the stricture and dilatation were obtained from endoscopy reports. Charts were reviewed for information about re-admission, escalation of medical therapy, repeat EBD, and surgery for up to 5 years (where possible) after the initial EBD.

Results

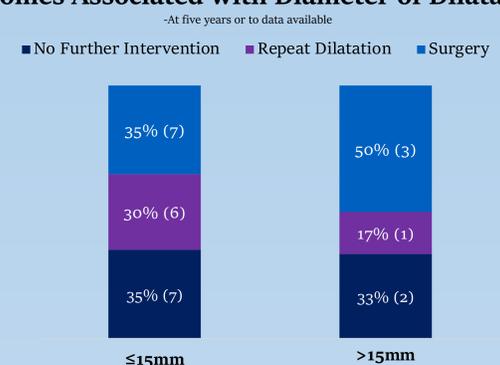
- 98% of EBDs were successful without complications. One failed due to inability to pass the guidewire.
- Within 30 days of EBD, 9% of patients were admitted, three for management of flares and one for *C.difficile* infection.
- In regards to the dilatation, the range of balloon diameter used was 8mm – 20mm. The median was 15mm. Triamcinolone was used in 9% (4) of EBDs - 4% (1) of first dilatations and 17% (3) of repeat dilatations.



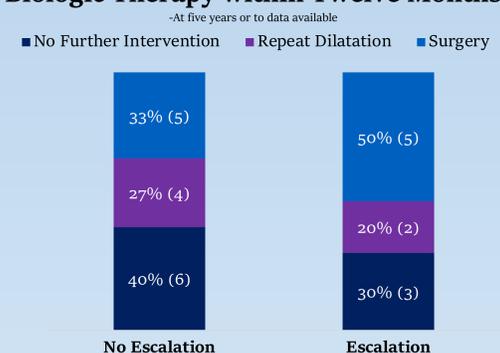
Outcomes Associated with Stricture Type



Outcomes Associated with Diameter of Dilatation



Outcomes In the Presence or Absence of an Escalation to / of Biologic Therapy within Twelve Months



Discussion

EBD of strictures in CD is a safe treatment which can delay and reduce the need for surgery. In this review, EBD delayed surgery by one year in 20%, three years in 29%, and five years in 44% of cases. 56% of strictures required no surgical invention at five years following EBD.

In regards to predictors of a good response to EBD, as other studies suggest, EBD of anastomotic strictures appeared to yield a better response than with native strictures. However contrary to previous studies, surgical intervention was less frequent following EBD with a smaller balloon diameter. Similarly, escalation of medical therapy was not associated with decreased need for repeat dilatation or surgical intervention. However, as treatment escalation is likely a reflection of active disease, in these cases EBD enabled 50% of patients to avoid surgery at five years.

Further determination of predictors of positive outcomes would allow for more selective application of EBD.

References

1. Reutemann BA, Turkeltsch JA, Al-Hawary M, Wajee AK, Higgins PDR, Sidham BW. Endoscopic Balloon Dilatation Size and Avoidance of Surgery in Stricture Crohn's Disease. *Inflamm Bowel Dis*. 2017;23(10):1803-9.
2. Navaneethan U, Lourdasamy V, Njei B, Shen B. Endoscopic balloon dilatation in the management of strictures in Crohn's disease: a systematic review and meta-analysis of non-randomized trials. *Surgical endoscopy*. 2016;30(12):5434-43.
3. Asairinathan A, An V, Daniel ES, Johnston MJ, Woods RJ. Endoscopic balloon dilatation of Crohn's strictures: a safe method to defer surgery in selective cases. *ANZ journal of surgery*. 2017;87(12):E240-e4.
4. Endo K, Takahashi S, Shiga H, Kakuta Y, Kinouchi Y, Shimosegawa T. Short and long-term outcomes of endoscopic balloon dilatation for Crohn's disease strictures. *World journal of gastroenterology*. 2013;19(1):86-91.
5. Ding NS, Yip WM, Choi CH, Saunders B, Thomas-Gibson S, Arebi N, et al. Endoscopic Dilatation of Crohn's Anastomotic Strictures is Effective in the Long Term, and Escalation of Medical Therapy Improves Outcomes in the Biologic Era. *Journal of Crohn's & colitis*. 2016;10(10):1172-8.