




## Introduction

- Endoscopic resection techniques such as Endoscopic Submucosal Dissection (ESD) and Endoscopic Mucosal Resection (EMR) are standard for treating superficial esophageal cancers.
- A major complication following these procedures is the formation of esophageal strictures, especially when large mucosal defects are involved.
- Prophylactic strategies include systemic or local steroids and stents.
- These treatments show inconsistent efficacy and can have potential adverse effects.
- Topical budesonide offers targeted anti-inflammatory action with minimal systemic absorption.

Total studies screened: 1843 across 4 databases  
Total Studies Included: 3 studies with a total of 256 patients

Study	Year	Type	Country	N	Budesonide Arm	Control Arm	Budesonide Form	Dose	Duration
Hu et al.	2020	Retrospective		62	24	38	Suspension	-	-
Bartel et al.	2021	Prospective		100	25	75	Syrup	3 mg BID	8 weeks
Bahin et al.	2015	Prospective		104	29	75	Repsule	1 mg BID	6 weeks

## Discussion

- Despite variations in study design and budesonide formulations, all included studies favored topical budesonide for reducing stricture risk.
- No adverse events were reported, reinforcing the safety of topical budesonide as a low-risk intervention.
- Oral/topical budesonide offers a non-invasive alternative to endoscopic steroid injections, making it easier to administer post-ESD/EMR.
- Variability in dose, form, and duration across studies highlights the need for protocol uniformity in future trials.

## Results

P	I	C	O	S
Population	Intervention	Control	Outcome	Study Design
Patients undergoing ESD or EMR for esophageal cancer	Topical budesonide (e.g., suspension, syrup, repsule), post-ESD/EMR to prevent esophageal strictures.	No budesonide or standard care without steroid prophylaxis.	-Esophageal stricture rate -Number of dilations -Budesonide related adverse events	Systematic review and meta-analysis

### Stricture Formation

- **Effect:** OR = 0.31
- **CI:** 0.16 – 0.62
- **p-value:** 0.0009
- **I<sup>2</sup>:** 0%
- **Interpretation:** 64% reduction in stricture risk with budesonide

### Number of Dilations

- **Mean Difference:** -0.48
- **CI:** -1.07 – 0.12
- **p-value:** 0.12
- **I<sup>2</sup>:** 95%
- **Interpretation:** Trend toward fewer dilations (not significant)

### Adverse Events

- **Reported:** None
- **Budesonide considered safe; no drug-related complications**

## Conclusion

📌 *Topical budesonide shows promising effectiveness in reducing post-endoscopic strictures with an excellent safety profile. Future RCTs are warranted.*

## References

1. Bahin FF, Jayanna M, Williams SJ, Lee EYT, Bourke MJ. Efficacy of viscous budesonide slurry for prevention of esophageal stricture formation after complete endoscopic mucosal resection of short-segment Barrett's neoplasia. *Endoscopy*. 2016;48:71–4.
2. Hu J, Lin X, Zheng J, Chen Y, Deng W, Zheng X, et al. Prophylactic value of budesonide viscous suspension for extensive esophageal stenosis after endoscopic submucosal dissection. *Chin J Dig Endosc*. 2020;471–5.
3. Mousa OY, Bartel MJ, Brahmabhatt B, Corral JE, Patel KK, Woodward TA, et al. Su1144 EFFECT OF BUDESONIDE ON ESOPHAGEAL STRICTURE RATES AFTER ENDOSCOPIC THERAPY FOR DYSPLASTIC BARRETT'S ESOPHAGUS OR EARLY ADENOCARCINOMA: A MULTICENTER STUDY. *Gastrointest Endosc*. 2018;87:AB292.

