



# Response to Letter to Editor: Advances in Endoscopic Techniques for Resection of Duodenal Neuroendocrine Tumours Response to: Outcomes of Surgical and Endoscopic Resection of Duodenal Neuroendocrine Tumours (NETs): a Systematic Review of the Literature

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We thank Dr. Srirajaskanthan's interest and the comments made about the systematic review of literature and the recommendations made from the same. We have no doubt that there are advances in the field of gastrointestinal endoscopy such as ESD that allow the experienced endoscopist to offer more than the standard therapeutic options. The current review is aimed at selection of patients for either an endoscopic resection or a local resection or a more radical PD based on the size, depth and aggressiveness (grade, differentiation and LN status) of the lesion.

As stated in the methods,<sup>1</sup> only those studies reporting the comparative outcomes of the ER vs. LR vs. PD were included in the review. Therefore, the case series referred to by Dr. Srirajaskanthan were not included. While we do not disagree with Dr. Srirajaskanthan that advanced endoscopic procedures have a potential role in the management of subepithelial gastrointestinal lesions, it would be worth critically appraising the data presented in the additional interesting studies.<sup>2–5</sup> Kim et al.<sup>2</sup> performed EUS routinely and classified the lesions to be originating from the deep mucosal layer and/or the submucosal layer, or originating from the proper muscle layer. Of the 64 included patients, only one patient has lesion that originated from the muscularis propria. In addition, median tumour size was 9 mm and over 55% of the lesions were less than or equal to 10 mm in size. Forty-two percent of the lesions were pathologically Brunner's gland hyperplasia that typically arises from the submucosa. All these factors might explain that only 41% patients in this cohort required EMR with

ligation or ESD. EMR alone was performed on tumours with a median size of 18 mm, which was larger than the tumours that underwent EMR-L and ESD (6 mm and 8.5 mm, respectively) ( $p = 0.003$ ). Of those 24/64 patients who underwent EMR-L or ESD, only 58% had complete pathologic clearance and on the multivariate logistic regression analyses the treatment method was also associated with incomplete pathologic resection (ESD: OR 7.178, 95% CI 1.291–39.323,  $p = 0.024$ ). Fujimoto et al.<sup>3</sup> reported 10 submucosal lesions and 80% were subcentimetre in size. Although endoscopic complete resection was reported as 100% in this series, pathologic clearance was achieved in only 70% despite of the smaller size and the submucosal location. Park et al.<sup>4</sup> also included submucosal lesions with a mean tumour size as small as  $6.6 \pm 3.9$  mm. Oono et al.<sup>5</sup> reported 12 patients with lesions involving submucosa and none of them were larger than 10 mm.

While the emerging advanced endoscopic techniques may have a wider role in the management of larger duodenal NETs in future, the above data could not be directly extrapolated to the management of all the lesions that are less than 2 cm and in particular to those involving the muscularis propria. We therefore feel that the proposed treatment algorithm (Table 3)<sup>1</sup> is an up-to-date, evidence-based and well-balanced approach to the management of duodenal NETs.

## References

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