Near Infra-Red Imaging in Laparoscopic Hellers myotomy

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INTRODUCTION

Incomplete myotomy and inadvertent mucosal perforation are two main complications of Heller's myotomy . Intraoperative ICG dye instillation in oesophagus by Ryle's tube helps two ways:

1) Detects completion of myotomy: non separated musculature of oesophagus are detected against the green background of mucosa.
2) The mucosal perforation is detected early by leaking ICG dye.

PROCEDURE

After completion of Heller's myotomy, 5 mL of ICG dye diluted in 20 mL of NS is instilled in mid-oesophagus by Ryle's tube. NIR mode of camera will detect any muscle fibres remaining over the green mucosal tube. They can be cut. Secondly, even a very small mucosal perforation can be detected by leaking ICG dye as seen in Fig 3.

RESULT

The use of ICG-NIR imaging is useful to prevent the intra-operative complications of Heller's myotomy.

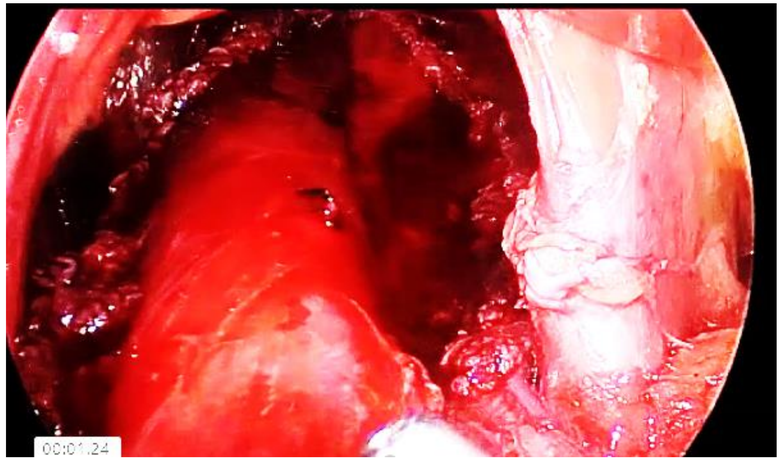


Figure 1 shows mucosal tube after Heller's myotomy



Figure 2 shows a few intact muscle fibres over the mucosal tube

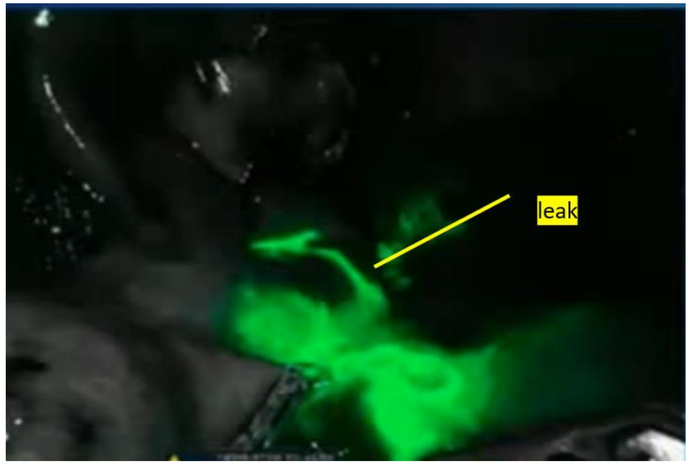


Figure 3 shows leaking ICG dye due to mucosal micro-perforations