



Minimally invasive treatment of gastro-esophageal reflux disease (GERD): a still debated issue

Gastro-esophageal reflux disease (GERD) is defined as a “condition which develops when the reflux of stomach contents causes troublesome symptoms and/or complications” (1). Currently, GERD prevalence ranged between 2.5% and 33.1% but it is increasing world-wide (2).

GERD is a functional disease, which involves anatomical barrier such as the esophago-gastric junction (including the intrinsic lower esophageal sphincter, the diaphragmatic crura, the phreno-esophageal ligaments and the acute angle of His) and functional barriers (including functional efficacy of esophago-gastric junction and of esophageal peristalsis to clear the refluxate from esophagus) (3,4). Impairment of one or more of these barriers can be responsible for the development of GERD and for this reason the diagnosis, the surgical strategies and the postoperative outcomes are still a debated topic in literature (5).

Undoubtedly, the introduction of minimally invasive approach for the surgical treatment of GERD provided several advantages such as the early postoperative recovery and the reduced postoperative pain, but the choice of the best surgical technique is still a debated issue (6).

The present series, focused on the minimally invasive surgical treatment of GERD, aims to provide an overview about the possibilities presently available to manage patients with GERD. The indication for surgery (Sacchi *et al.*) is not always so simple and often influences the postoperative results. The most employed surgical techniques such as Nissen and Toupet fundoplication (Ugliciono *et al.* and Coletta *et al.*) are safe and feasible but required an adequate experience and volume of the surgical team and in some cases are responsible for important functional sequelae at long term follow up (7,8). For this reason, recently, new devices and surgical techniques have been proposed in order to treat GERD such as LINX (Botteri *et al.*) and the lower esophageal sphincter electrical stimulator (Paganini *et al.*) but long term follow up data are still lacking and it is difficult to draw definitive conclusions. As above mentioned, GERD is a complex disease and many structures, not only the esophago-gastric junction, are responsible for the development of reflux, so another debated topic is if and how to perform the hiatal repair in case of hiatal hernia (Balagué *et al.*). In the last two decades, several authors reported their experience with the absorbable or not absorbable mesh placement after the diaphragmatic crura approaching, but also in this case, standardized indication and surgical technique of choice are not yet available (9-11). Lastly, it is important to underline that only long term follow up is able to provide definitive information regarding the surgical results and that in this sense the recurrence rate (Ortenzi *et al.*) and patients' quality of life (Alemanno *et al.*) are the best indicator of postoperative results.

I hope that this series could be of interest for the readers providing useful information about the most recent knowledge on GERD and I would thank the Laparoscopic Surgery journal for the opportunity to serve as guest editor for this series and all authors who have contributed with their articles in this project.

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