Letter to the Editor

Endoscopy and surgery for achalasia: the two sides of myotomy

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Achalasia is associated with four typical symptoms: dysphagia, thoracic pain, regurgitation and weight loss. The etiology finds its rationale in an autoimmune reaction that leaves the lower esophageal sphincter (LES) in a spastic condition associated with different grades of esophageal body impairment. So far no options are available to solve this condition, but from the beginning of 20th century endoscopic and surgical procedures have tried to palliate symptoms associated to this rare disease. Surgical myotomy (Heller myotomy), associated with antireflux wrap, has become the gold standard for treatment of the above mentioned symptoms. Surgery is considered the treatment of choice for esophageal achalasia as it achieves better and longer-lasting symptomatic relief than the one obtained with medical or endoscopic treatment; the same applies to gastroesophageal reflux symptoms (GER) (1). This being said, intraoperative and postoperative surgical results in terms of symptoms relief and relief duration have become the benchmark for the other procedures used to treat achalasia. The endoscopic dilation, in reason of its minor invasiveness, has been widely applied. The results obtained with this technique have been reported as safe and effective as the results achieved by Heller Dor procedure at 3 years follow up in terms of symptoms relief. Principal limits of the endoscopic dilation are the necessity to repeat the procedure to achieve better results, its efficacy—particularly for type II achalasia sec. Chicago Classification—and the risk of perforation that influences the postoperative course (2).

Ten years ago a new endoscopic technique to perform an intraluminal myotomy was introduced, the PerOral Endoscopic myotomy (POEM). This option obtained a fast and wide consensus and very good results in terms of symptoms relief (success rate 90–100%). POEM has the capacity to obtain the aimed results with a single procedure as its first competitor: the surgical procedure. Principal limits of POEM, highlighted in a high number of analysis, are the high rate of postoperative GER symptoms and related esophagitis, the absence of long term follow-up studies and the small number of prospective randomized trial (all based on a small number of cases) (3). However it is a fact that, since the POEM was proposed, everybody liked it. Patients like it because they feel it is minimally invasive, endoscopists like it because it is innovative and it looks like an almost surgical procedure and even surgeons like it because it represents on valid option for patients not fit for surgery, in case of achalasia subtype III according to Chicago Classification and in case of recurrent dysphagia after prior surgical myotomy (4,5). To be objective we should admit that POEM is not a simple technique compare to standard endoscopic procedures, and only experienced endoscopists (6) (both gastroenterologists or surgeons) should approach it, in order to achieve good results. Moreover even if its complication rate is low, the operator performing POEM must be able to identify and treat possible serious complications (7). These are the reasons why POEM is mainly performed in a safe setting where

upper Gastrointestinal surgeons or Thoracic surgeons are available to convert the endoscopic procedure in a thoracoscopic or laparoscopic one if needed (8). We are nowadays comparing POEM with Heller's myotomy, the standard of care, in terms of success and complications. But POEM is quite different, not only because of the absence of antireflux procedure or for the longer myotomy than that achieved laparoscopically, and we will now try to evaluate the specific differences existing between endoscopic surgery and flexible endoscopic surgery. The concept behind POEM is the Natural Orifices Transluminal Surgery (NOTES): the big dream of endoscopists. From this point of view, POEM is the only NOTES performed routinely and worldwide. Our question is whether Gastrointestinal endoscopists (meanly gastroenterologist) are ready to pierce the natural gut barrier to reach an unknown scenario. The anatomy beyond the gut (the mediastinal and peritoneal space for POEM) is different from the safe and well known endoluminal space and the structures encountered might be new for the endoscopist (9). Moreover, the devices available in endoscopy have been built to work and treat only small structures (vessels and fibers) as the ones present in the mucosal and submucosal space. When entering the mediastinum or the peritoneum, anatomical structures are approached from a new point of view: the endoscopist might face challenges related to knowledge and instruments. The particular property of the submucosal layer to be injected and mechanically elevated is one the most important assets in performing interventional endoscopy: the cushion created serves as an anatomical landmark to understand the right plane to follow. This property has been exploited since decades by endoscopists to safely perform all kind of procedures from polypectomy and endoscopic resection to the most recent endoscopic submucosal resection (ESD). On the other hand this property has been also used by medical companies to fabricate specific devices capable to inject, cut and coagulate, the so-called needleless injection knives (10). They are more and more used in interventional endoscopy making procedures safer and faster, mostly because, compared to endoscopic surgery, flexible endoscopy is carried out via a single operative channel. Last but not least from an anatomical point of view, the gut serves also as a mechanical barrier for food and bacteria, to preserve the contamination of a sterile space. Although severe contamination and sepsis have not been reported so far in literature, our knowledge on this point is still too limited and further studies are needed. What we currently really need are endoscopists with some surgical skills and knowledge to challenge the new era of the flexible surgical endoscopy.

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Footnote

Conflicts of Interest: The authors have no conflicts of interest to declare.

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