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Title : Robotic-assisted hiatal hernia repair with prosthetic reinforcement (with video).

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Conflicts d'intérêts: Aucuns conflits d'intérêt à déclarer.

Abréviations: hernie hiatale (HH)

Key words: hiatal hernia; bioprosthesis; robotic surgery; fundoplication.

TEXT

Large or Giant hiatal hernias (HH) are defined by hiatal hernias containing more than a third of the stomach localized within the thoracic cavity. During last decades, laparoscopic approach has been able to reduce post-operative complications as well as the length of hospital stay [1]. Consequently, conventional laparoscopic approach has become the gold standard for performing a large HH repair [2]. However, laparoscopic approach in those

patients is not always easy and may require some expertise [3]. With this background, a robot-assisted approach has been proposed for pushing the envelope from conventional laparoscopy allowing the surgeon to make the same gesture, with greater ease and more accuracy. This video shows a 75-year-old patient, without medical history, referred for acute dysphagia management. A chest CT scan showed a gastric distension related to the migration of the stomach into the chest cavity (**Figure 1**). An upper gastrointestinal endoscopy did not show any sign of gastric ischemia. Because of the risk of gastric necrosis and upper digestive obstruction, which may be responsible for aspiration pneumonia, we decided to perform a semi-urgent hiatal hernia repair using the robotic platform. The first step consisted of reducing the hiatal hernia with reintegration of the stomach into the abdominal cavity. Resection of the sac was then performed with crura repair using non absorbable 0 sutures (**Figure 2**). A biological prosthetic reinforcement was used due to a large defect at the level of the hiatal orifice. This surgical mesh was used to reduce the risk of mid- and long term recurrence [4, 5]. In this patient, we choose a biological prosthesis to avoid the risk of complications linked to the use of conventional inert prosthesis [6]. The surgical procedure ended with a 270 ° Toupet fundoplication type (**Figure 3**). The operating time was 150 minutes with negligible blood loss and without abdominal drainage. Postoperative outcomes remained uncomplicated with an upper gastrointestinal contrast study performed on post-operative day 2 (**Figure 4**) showing no stenosis or gastroparesis. The patient was able to resume oral feeding on the second post-operative day and was discharge home on the third post-operative day. This video shows different steps necessary to perform a robotic-assisted approach for large hiatal hernia repair. It will be useful for all surgeons having to manage patients with large hiatal hernias.

Conflict of interest: none

FIGURE LEGEND

Figure 1: Chest CT scan showing dilated stomach migrated into the chest

Figure 2: Intra-operative view during crura repair

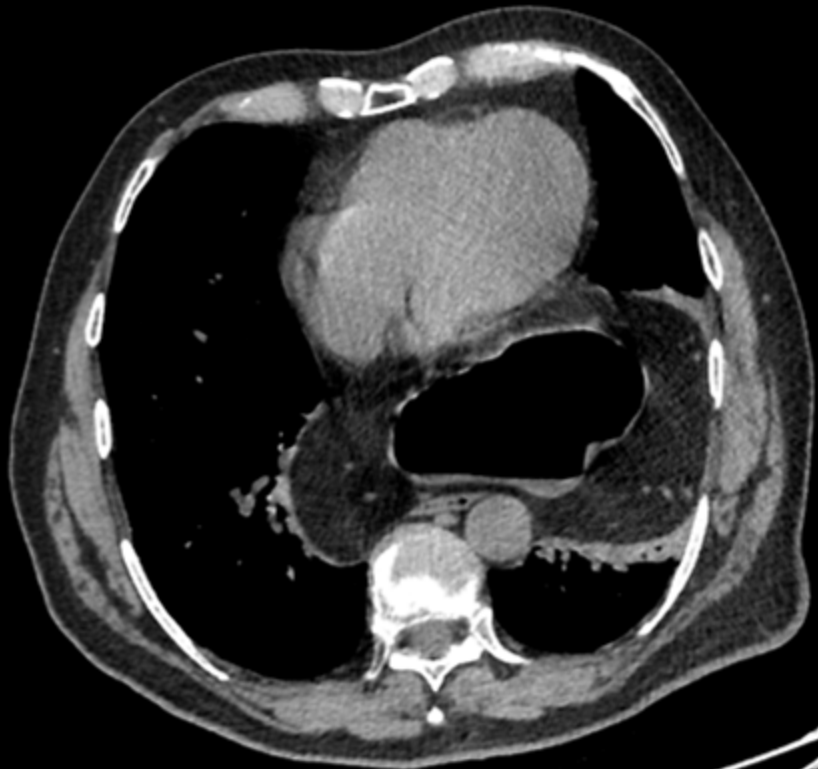
Figure 3: Intra-operative view showing Toupet 270° fundoplication with mesh repair

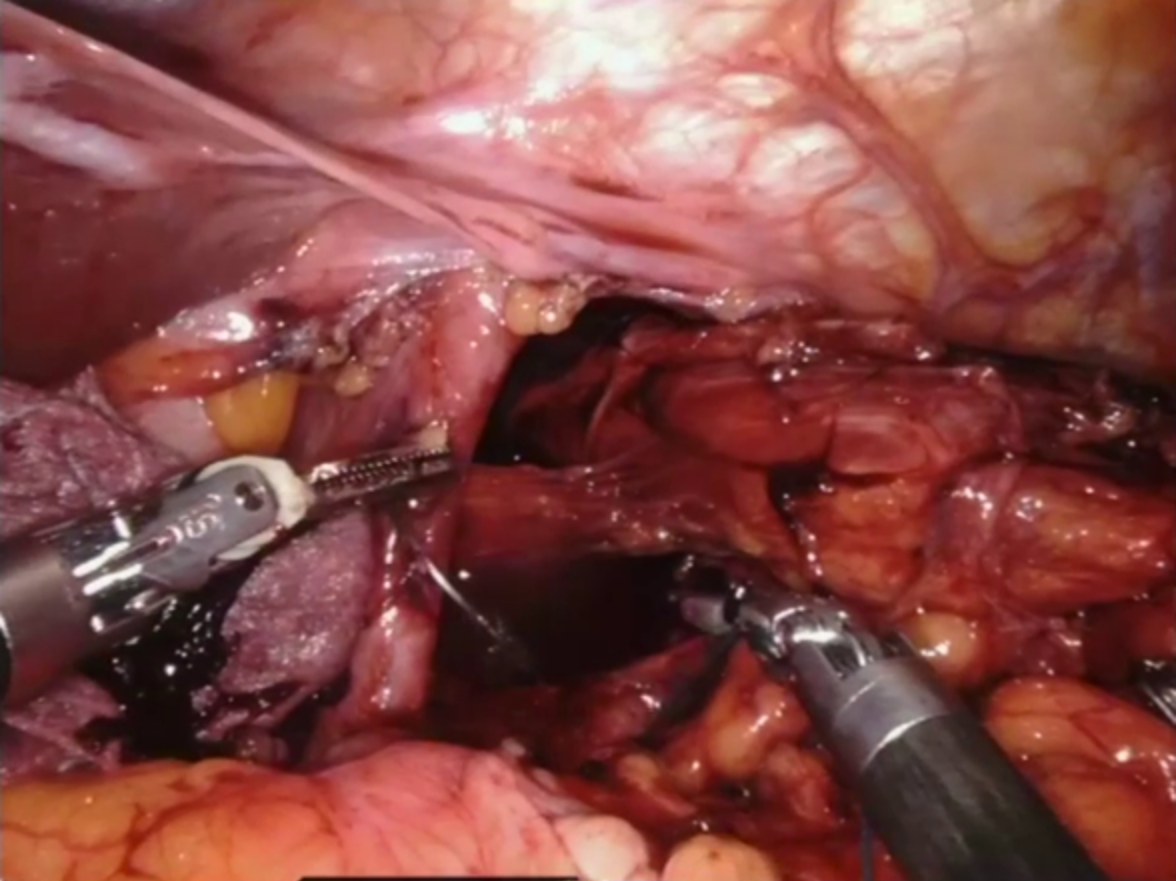
Figure 4: Profile view of upper gastrointestinal contrast study performed on post-operative day

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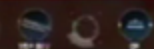




1

FENESTRATED
BIPO LAR FORCEPS

2

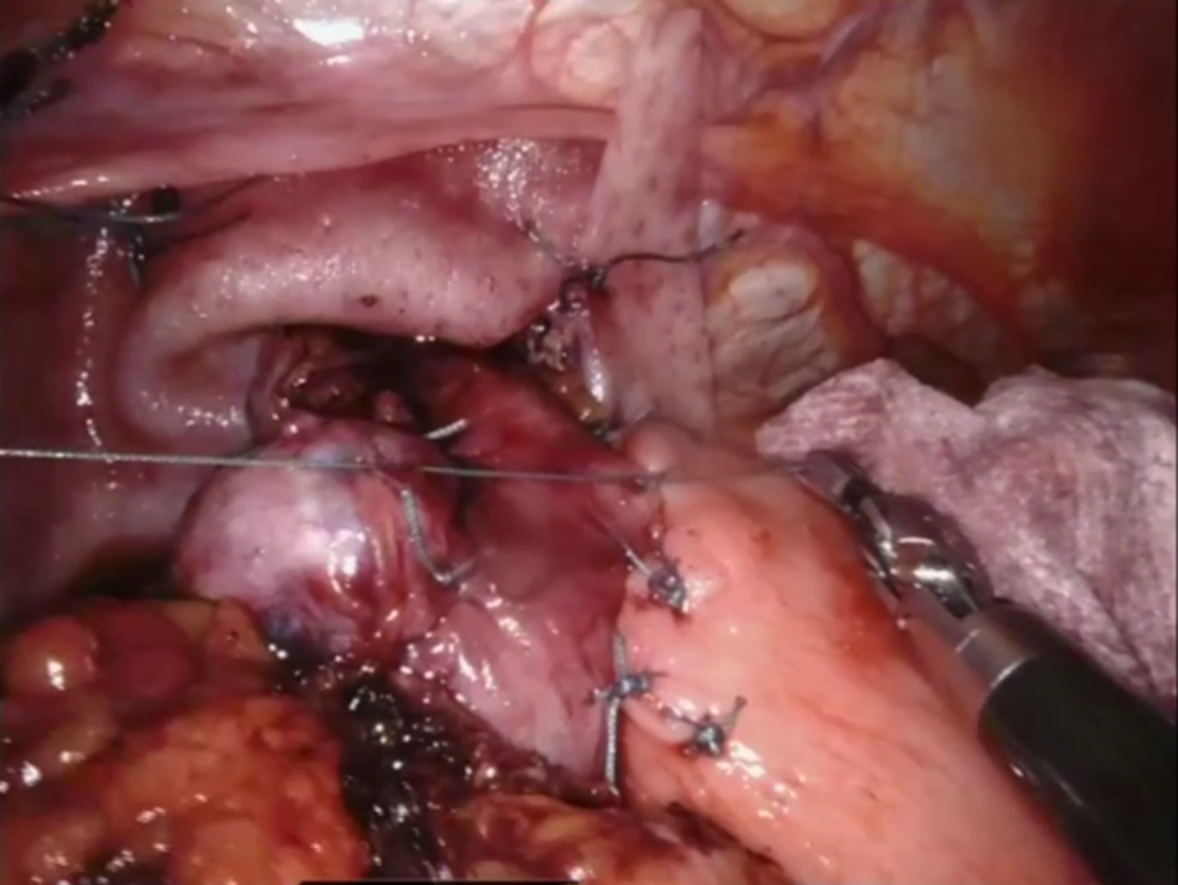


3

MEGA SUTURECUT
NEEDLE
DRIVER

4

CADIERE FORCEPS



1 FENESTRATED BIPOLAR FORCEPS

2

3 MEGA SUTURECUT NEEDLE DRIVER

4 CADIERE FORCEPS

