Robotic Assisted Enucleation of Large Croissant-Shaped Leiomyoma of the Lower Esophagus

Domenico Galetta, MD, PhD[1]; Lorenzo Spaggiari
[1]Division of Thoracic Surgery, San Giovanni Bosco Hospital, Turin, Italy, [2]Division of Thoracic Surgery, European Institute of Oncology, Milan, Italy

OBJECTIVES: Esophageal leiomyoma is a common benign esophageal neoplasm. The main treatment is the surgical resection traditionally accomplished by both open or thoracoscopic approach. We report the case of robotic-assisted enucleation of a large croissant-shaped leiomyoma of the lower esophagus (Figure 1) occurred in anasymptomatic 57-year-old female and we describe the technique of resection.

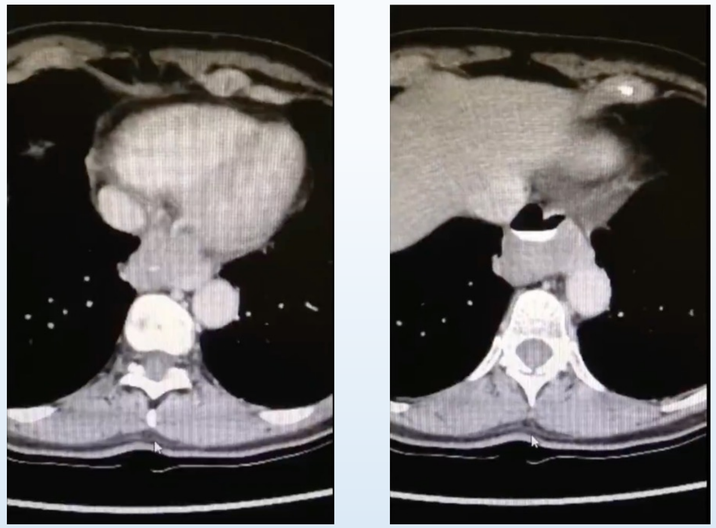
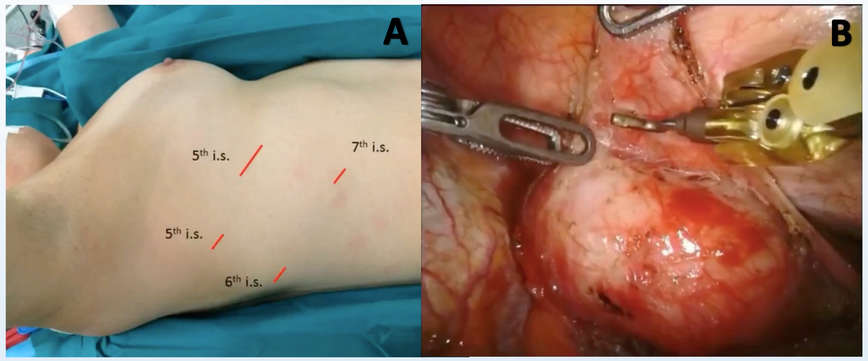


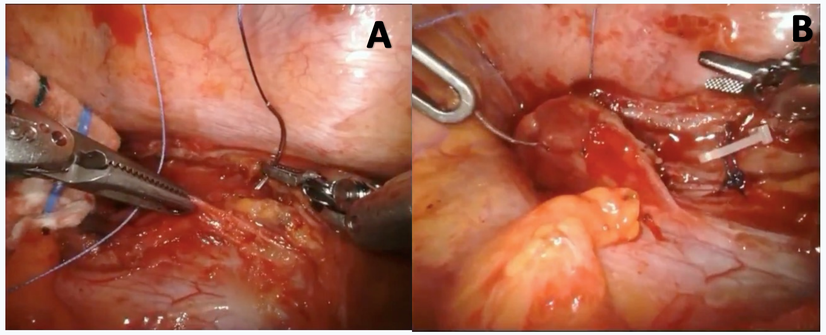
Figure 1. Two images of lower esophagus showing the presence of leiomyoma wrapping the esophagus..

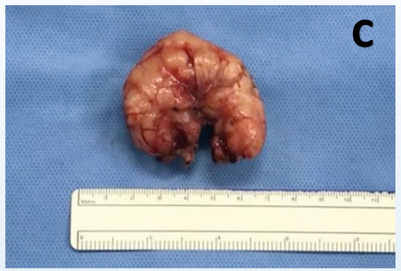
METHODS: The intervention was performed using a da Vinci Xi Surgical System. After a double-lumen endotracheal intubation and left lateral decubitus position (Figure 2, *A*). Four ports (3x1 cm and 1 x 3 cm) were placed in the 5th, 6th, and7th intercostal space (Figure 2, *B*). The lower right lobe was medially and upwards retracted. The mediastinal pleura on the esophagus was opened in cranio-caudal direction visualizing a large whitish bulge. A longitudinal myotomy was performed to expose the mass. The extramucosal leiomyoma was enucleated stepwise. The tumor, a croissant-shaped, 55x42x2.5 mm, was extracted in an endo-bag through the 3-cm anterior incision. The muscular layer of the esophagus was closed with separate sutures (Vicryl 3-0) (Figure 3, *A*). The mediastinal pleural was also closed by a continuous suture (Vicryl 3-0) (Figure 3, *B*). One 28-Fr chest tube was inserted through the port site in 7° intercostal space, and the incisions closed. The neoplasm had a croissant-shape aspect (Figure 3, *C*).



Fugure 2. A. Patient's position on the operative table and robotic ports location. B. The esophageal leiomyoma was exposed after longitudinal esophageal myotomy.

RESULTS: The total operative time was 116 minutes, and the blood loss was 30 ml. The patient was well postoperatively. On the 5th day, a postoperative gastrografin swallow demonstrated no leaks or stricture (Figure 3, *D*). At this time the patient started a liquid diet with good tolerance. She was discharged on the 6th postoperative day. Final histological exam confirmed the diagnosis of benign leiomyoma.





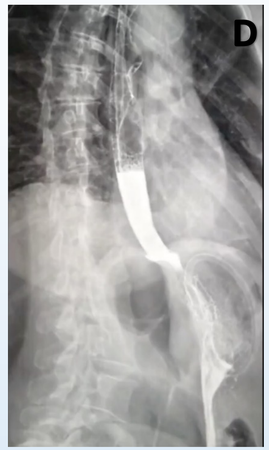


Figure 3. A. Closure of the esophageal muscular layer. B. Mediastinal pleural closure. C. Esophageal leiomyoma with a croissant-shaped aspect. D. Post-operative gastrografin swallow with no esophgeal strictures.

CONCLUSIONS: We present a case of large irregular intramural esophageal leiomyoma excised by robotic- assisted surgery. The resection was safely performed, and the leiomyoma easily approached, handled and removed. A clearoperative field and delicate dissections are critical points for the complete removal of this neoplasm.

Authors have nothing to disclose