Video of the Month

Transesophageal Endoscopic Mediastinal Tumorectomy: The First Report in a Human

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A 55-year-old man was found to have (a) a benign mediastinum lesion on a chest computerized tomography scan. (b) Endoscopic ultrasound (EUS) revealed a heteroechoic, spherical, and well demarcated mass 2.57 × 2.06 cm in diameter located outside the right esophageal wall, 38 cm from the incisors. After a full discussion, transesophageal endoscopic resection of the lesion was attempted. EUS was repeated before the procedure to locate the site of the lesion and confirm its relation to surrounding vital structures. Mucosal incision was performed 5 cm above the lesion, and a submucosal tunnel was created. (c) Although the lesion contour was no longer present in the submucosal tunnel owing to muscle relaxation, myotomy was performed at the predetermined site. (d) Full-thickness myotomy at 4 o’clock revealed a shiny, yellowish tumor with abundant surface vessels in the mediastinum. Hemostatic forceps were used for vessel coagulation, and (e) an insulated-tip knife was used to continue tumor dissection until the root of the tumor was exposed and transected. (f) The tumor was resected en bloc and removed with a snare. The wound was cauterized with the hemostatic forceps, and the complete tumor niche was visible. The tunnel entrance was then closed with clips. The patient experienced no procedure-related adverse events. Histology of the completely resected specimen showed a schwannoma.

Although receiving wide attention around 2010, transesophageal natural orifice transluminal endoscopic surgery (NOTES) has shown little development in the past 5 years. To date, there have been no reports of transesophageal NOTES per se in humans, although the procedure has been carried out in several swine model studies. Concerns over esophageal leak used to deter endoscopists, but they are less of an impedance today as a result of experience with peroral endoscopic myotomy (POEM) and submucosal tunneling endoscopic resection (STER). To our knowledge, this case represents the first NOTES in a human for mediastinal tumorectomy. (Informed consent was obtained from the patient to publish these images.)

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