CLINICAL CASE

Transoral surgical removal of a giant fibrolipoma of the esophagus: Case report

Résection transbuccale d’un fibrolipome géant de l’œsophage : à propos d’un cas

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Summary An esophageal mass of more than 20 cm in length was diagnosed in a patient who presented with persistent dysphagia. Diagnosis of an endo-esophageal tumour was made by barium swallow; esophagoscopy confirmed the presence of a capsulated pink endo-esophageal mass. MRI confirmed the presence of a large capsulated mass within the esophagus, that appeared to be adipose tissue; a small stalk originating at the level of the upper esophageal sphincter was described and the polyp extended down to the gastroesophageal junction. Demonstration of the site and length of the stalk allowed a transoral removal of the mass, performed through a Weerda diverticuloscope (Karl Storz Endoskopie Gmbh, Tuttlingen Germany), a technique that has never been described before. Histology confirmed the mass as a fibrolipoma. The authors discuss both the role of MRI in diagnosis and treatment planning and the technique of transoral excision.

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Résumé Une masse œsophagienne mesurant plus de 20 cm en longueur était découverte chez un patient présentant une dysphagie persistante. Une opacification de l’œsophage a permis le diagnostic d’une tumeur endo- œsophagienne, confirmé par l’endoscopie montrant la présence d’une masse endo-œsophagienne rosâtre et encapsulée. L’IRM a confirmé la présence d’une grande masse encapsulée d’aspect adipeux au sein de l’œsophage, qu’un pédicule frêle attachait au sphincter œsophagien supérieur. Le polype descendait jusqu’à la jonction gastro-œsophagienne. La démonstration du site de l’attachement et de la longueur du pédicule a permis une résection transbuccale de la masse par un diverticuloscope de Weerda (Karl Storz Endoskopie Gmbh, Tuttlingen Germany), une technique qui a été décrite après. La histologie a confirmé le tissu de la masse en fibrolipome. Les auteurs discutent du rôle de l’IRM dans le diagnostic et la planification du traitement et de la technique de résection transorale.

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Fibrolipoma of the esophagus

Endoskopie GmbH, Tuttingen, Allemagne). Ce cas est la première description de la technique. L’histologie a confirmé le diagnostic de fibrolipome. La discussion concerne l’importance diagnostic et thérapeutique de l’IRM, ainsi que la technique de résection transbuccale.
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Introduction

Benign tumours of the esophagus are rare [1]. Few among them are lipomas or fibrolipomas (1–3%); they are constituted by fibrous and lipomatous elements and usually arise at the pharyngo-esophageal junction [2]; they are typically pedunculated with a narrow stalk, with an intraluminal growth and may attain giant proportions. Symptoms are usually related to the size of the tumour which causes dysphagia, food impaction and regurgitation. Death from asphyxia, related to laryngeal impaction of a regurgitated polyp, has been described [3–5]. Large polyps should be surgically excised upon discovery [6,7]. Various techniques for excision have been described either through open surgery or endoscopically; when planning the surgical approach to these tumours, exact knowledge of the size and site of the stalk, and of the degree of vascularization is of the utmost importance. We report a case of a giant esophageal fibrolipoma originating at the upper esophageal sphincter, causing dysphagia and regurgitation. The tumor was removed with a transoral technique. We discuss here the relevant diagnostic steps and the technical details of removal.

Case report

A 54-year-old female complaining of dysphagia was addressed to the upper GI outpatient department with the diagnosis of suspect achalasia. A barium swallow showed a slightly enlarged hypokinetic esophagus, with a narrow distal segment and with delay in barium esophageal outflow. The patient complained also of a sensation of a lump in the throat. A double contrast upper GI series showed an endoluminal mass, so the patient was submitted to flexible esophagoscopy: the examination showed the presence of a giant soft mass within the esophageal lumen, extending from the upper esophageal sphincter to the gastroesophageal junction; endoscopically the lesion was seen as originating from the upper esophageal sphincter.

Endoscopic ultrasound confirmed that the esophageal lumen was entirely occupied by a giant mobile lesion, with hyperechogenic structure, suggestive of a fibrolipoma.

In order to define the surgical approach, a magnetic resonance imaging (MRI) of the neck and thorax was performed, for a multiplanar study of the lesion. MRI evaluation was performed with a 1,5 T (Siemens, Germany), in the three planes, with T2 and T1 weighted sequences: the examination confirmed the presence of an expansive lesion of the esophagus, with a lipomatous structure, originating from the submucosal layer of the cervical esophagus and protruding within the lumen down to the esophago-gastric junction. A short stalk at the posterior wall of the pharyngo-esophageal junction was identified (Fig. 1). The clear depiction of the stalk afforded by MRI allowed, in consideration of our wide experience with transoral treatment of Zenker diverticulum, to plan a transoral approach to excise the tumour.

Surgery was performed under general anaesthesia in the supine position with hyperextended neck. The pharyngoesophageal junction was exposed by use of a Weerda diverticuloscope (Karl Storz Endoskopie GmbH, Tuttingen Germany). This confirmed the presence of the pedunculated lesion within the esophagus which almost completely filled it, originating at the upper esophageal sphincter with a short stalk. The stalk was underpassed with a right-angled laparoscopic dissector and taped for traction: it was then resected by the use of both a diode laser and standard laparoscopic scissors with monopolar cautery inserted through the mouth of the patient thanks to the field created by placement of the diverticuloscope. Once the section was completed, the entire polyp was then retrieved through the mouth (Fig. 2). No bleeding on the sectioned stump occurred.

Gross pathologic revealed that the mass was whitish-pink, fleshy in consistency, measuring more than 20 cm (Fig. 3). It had a core of predominantly fibroadipose tissue with nondysplastic overlying squamous mucosa with areas of focal ulceration. Histopathology confirmed the diagnosis of a giant fibrovascular polyp of the esophagus.

The patient had an uneventful recovery and was discharged on the 4th postoperative day after a Gastrographin® swallow. Dysphagia and the sensation of a lump in the throat completely disappeared after surgery. A double contrast upper GI series performed three months after surgery was normal; endoscopy showed good healing of the section margin with no protruding recurrent mass and the patient is symptomless at more than one year follow-up.

Discussion

Benign tumours of the esophagus are uncommon [2,8–14]. Among them, lipomas and fibrolipomas are usually slowly-growing, solitary pedunculated large tumors occurring in adults, predominantly men [1,15–17]. The vast majority of esophageal lipomas arise close to the upper esophageal sphincter. Symptoms are correlated to the size of the tumour: dysphagia to solids is the commonest.

The diagnosis of a giant pedunculated esophageal tumour is often difficult: barium meal can give a false negative result: the lipoma may appear like a filling defect in a dilated esophagus and be falsely interpreted as achalasia with food retention [18]. Since the tumour is covered by normal mucosa, endoscopy can give a false negative result too [17].

In case of dysphagia and suspicion of endoluminal mass, endoscopic ultrasound and computed tomography scan may be diagnostic, although MRI imaging yields superior results due to its good contrast and spatial resolution. In this
Figure 1  a—b: MRI in the three planes, with T2 weighted sequences, shows the presence of a lipomatous lesion that occupies the whole thoracic esophagus; a: demonstrates the short stalk at the posterior wall of the pharyngo-esophageal junction; b: shows the narrow real lumen; the lumen appears hyperintensive.

IRM dans les trois plans. Séquences T2-pondérées. Présence d’une lésion lipomateuse tout au long de l’œsophage thoracique. a : petit pédicule au niveau de la paroi postérieure de la jonction pharyngo-œsophagienne ; b : étroite lumière réelle de l’œsophage ; signal hyperintense.

In this case, MRI could diagnose that the tumour was composed of adipous tissue and show exactly the site and size of the stalk.

Pedunculated fibrolipomas of the esophagus are an indication for excision being usually symptomatic and with the potential of causing severe symptoms. Excision of the tumour is usually performed surgically. If the tumour originates from the upper esophageal sphincter, access to the cervical esophagus is obtained through a left cervicotomv; a longitudinal esophagotomy may expose the pedicle and allow resection of the mass.

Small tumors may be resected endoscopically with a standard polypectomy loop even if the site of the stalk at the upper sphincter makes the procedure technically challenging. In the present case, MRI proved an excellent diagnostic tool that allowed a precise depiction of the stalk of the tumour.

Figure 2  The cervical esophagus is exposed by insertion of a Weerda diverticuloscope and the tumour is retrieved through the mouth after its pedicle has been sectioned.

L’œsophage cervical est exposé par l’insertion du diverticuloscope de Weerda. La tumeur est retirée par la bouche après section du pédicule.

Figure 3  Surgical specimen: giant pedunculated polyp with a narrow pedicle at one end, smooth walls and normal mucosa; it is longer than 20 cm and measures 5.5 cm at its widest diameter.

Pièce de résection : un polype géant pédiculé à l’une des extrémités ; les parois sont lisses, couvertes d’une couche de muqueuse normale ; le polype mesure 20 cm de long et 5,5 cm de diamètre maximal.
Fibrolipoma of the esophagus 869

lesion and thus the planning of precise preoperative strategy. The resection was not attempted endoscopically due to the size and site of the stalk which would have resulted in a difficult endoluminal exposure of the lesion, with major concerns in the control of a potential hemorrhage. For this reason, we planned a transoral endoscopic removal of the mass. The wide experience gained in the use of a Weerda diverticuloscope (Karl Storz Endoskopie Gmbh, Tuttingen Germany) for the transoral treatment of more than 400 patients with Zenker’s diverticulum [19] made us use this instrument to expose the stalk of this giant endoluminal lesion sited in the cervical esophagus. The stalk was safely sectioned using both a diode laser and standard laparoscopic scissors with monopolar cautery after having encircled it with a safety tape by the use of a laparoscopic right-angled dissector inserted through the mouth thanks to the wide space obtained in the oral cavity by placement of the diverticuloscope. Transoral retrieval and extraction of the mass was easy. The measure of the tumor was huge, more than 20 cm in length, and this also makes this case exceptional.

The postoperative course was uneventful and the early and late clinical results extremely satisfactory.

In conclusion, we think that in case of suspicion of an endoluminal giant polyp of the esophagus, an MRI should be performed, in order to visualise the presence of a pedicle of the mass, and thus to plan the better surgical strategy for removal. In this case transoral excision of the mass proved easy and safe, and avoided an esophagotomy with the related morbidity. The Weerda diverticuloscope was an excellent tool to expose the stalk of the lesion. The diode laser and standard scissors with monopolar cautery are safe and effective to section and coagulate the pedicle.

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References