

CASE REPORT

DYSPHAGIA – BEYOND MALIGNANT PATHOLOGY

Gabriel Constantinescu^{1,2}, Mădălina Ilie^{1,2}, Vasile Şandru², Iustin Moroi², Irina Diaconu², Andreea Hortopan², Cătălina Diaconu², Ecaterina Rînja²

¹University of Medicine and Pharmacy „Carol Davila“, Bucharest, Romania

²Gastroenterology Department, Bucharest Clinical Emergency Hospital, Bucharest, Romania

ABSTRACT

Introduction. Esophageal dysphagia can be caused by functional or structural abnormalities of the esophagus like esophageal strictures due to acid reflux disease, eosinophilic esophagitis, tumors and extrinsic compression, or by neuromuscular disorders like achalasia and diffuse spasm. The true prevalence of esophageal dysphagia is unknown, although epidemiological studies estimate a prevalence rate of 16% to 22% among individuals over 50 years of age.

Case presentation. We present the case of a 55-year-old man, admitted to our hospital with progressive dysphagia for solids and important weight loss over the last two months. The upper endoscopy revealed an extrinsic compression of the middle esophagus. At this point, a thorax and abdomen computed tomography scan was performed, that showed a retrohilar mass of 58/44/38 mm, which compressed the right inferior lobar bronchus at the origin and the thoracic esophagus in the middle part. Endoscopic ultrasound and fine needle aspiration were performed. The anatomopathological examination of the biopsy reveals elements of chronic inflammation with neutrophils and lymphocytes, and granulomas with areas of necrosis, highly suggestive for tuberculosis.

Conclusions. Dysphagia is a rare manifestation of tuberculosis, most commonly caused by an extrinsic compression mechanism due to mediastinal adenopathies. The particularity of this case is related to the contradicting imaging studies, that suggested either an

RÉSUMÉ

La dysphagie – au-delà de la pathologie maligne

Introduction. Les principales causes de la dysphagie sont les anomalies fonctionnelles ou structurales de l'œsophage, comme par exemple: les rétrécissements secondaires au reflux gastro-œsophagien, l'œsophagite éosinophilique, les tumeurs ou les compressions extrinsèques, ou les maladies neuromusculaires – l'achalasia ou le spasme œsophagien diffus. La prévalence de la dysphagie n'est pas exactement connue, mais les études épidémiologiques l'évaluent entre 16% et 22% chez les adultes de plus de 50 ans.

Présentation du cas. On présente le cas d'un homme de 55 ans hospitalisé dans notre unité pour dysphagie progressive pour les aliments solides, associée à une importante perte du poids durant depuis deux mois. L'endoscopie digestive supérieure montre une compression extrinsèque dans le segment moyen de l'œsophage. Le scanner du thorax et de l'abdomen met en évidence une masse rétro-hilaire de 58/44/38 mm comprimant la bronche lobaire inférieure droite et le segment moyen de l'oesophage. L'écho-endoscopie haute avec aspiration à l'aiguille a été réalisée. Le résultat anatomopathologique de la biopsie a montré des polynucléaires neutrophiles et lymphocytes avec des granulomes avec nécrose, diagnostiquant la tuberculose.

Conclusions. La dysphagie est une manifestation rare de la tuberculose, le plus fréquemment causée par des

Corresponding author:

Ecaterina Rînja

Clinical Emergency Hospital of Bucharest, Calea Floreasca no. 8, Bucharest, Romania

e-mail: ecaterina.rinja@gmail.com

esophageal or a pulmonary tumor, with mediastinal adenopathies, and the importance of endoscopic ultrasound with fine needle aspiration in determining the benign or malignant nature of injuries that are hardly accessible to non-invasive diagnostic methods.

Key words: dysphagia, ganglionar tuberculosis, endoscopic ultrasound.

adénopathies médiastinales qui déterminent une compression extrinsèque. La particularité du cas réside dans la contradiction entre les divers examens d'imagerie, suggestifs plutôt pour une tumeur œsophagienne ou pulmonaire avec des métastases médiastinales et l'écho-endoscopie haute avec aspiration à l'aiguille fine, qui est très importante pour discerner la nature maligne ou bénigne d'une lésion.

Mots-clés: dysphagie, tuberculose ganglionnaire, écho-endoscopie.

INTRODUCTION

Dysphagia is a relatively common and increasingly prevalent clinical problem. Esophageal dysphagia can be caused by functional or structural abnormalities of the esophagus¹. The true prevalence of esophageal dysphagia is unknown, although epidemiological studies estimate a prevalence rate of 16% to 22% among individuals over 50 years of age². Structural causes are far more frequent than disorders involving nerves or muscles. Therefore, structural abnormalities like esophageal strictures due to acid reflux disease, inflammation due to infections, eosinophilic esophagitis, radiation therapy, tumors and extrinsic compression are more common than neuromuscular disorders like achalasia and diffuse spasm. Less common disorders involving esophageal dysphagia are scleroderma, Parkinson's disease and myasthenia gravis^{1,2}.

Imaging studies are essential for evaluating these patients due to the broad spectrum of disorders presenting with dysphagia as primary symptoms^{3,5}. Over the past decades, endoscopic ultrasound has gained its rightful place as one of the best techniques in diagnosing lesions that are hardly accessible to non-invasive diagnostic methods and has emerged as an important

tool to diagnose esophageal and mediastinal disorders, with safe and high diagnostic accuracy^{6,7}.

CASE PRESENTATION

A 55-year-old man presented to our hospital with progressive dysphagia for solids and important weight loss over the last two months. Anamnesis revealed that the patient has suffered an ischemic stroke in the posterior left brain artery, four years before, without any significant neurological sequelae, and is currently undergoing treatment with combined antiplatelet therapy (aspirin 75 mg per day and clopidogrel 75 mg per day) and plaque-stabilizing drugs (statin 20 mg per day). The biological profile shows inflammatory syndrome, hyposiderinemia, hypocholesterolemia and mild hepatic cytolysis.

Despite the fact that the chest X-ray was within normal range and the abdominal ultrasound only showed splenomegaly, the upper endoscopy revealed an extrinsic compression in the middle esophagus and multiple biopsies were obtained, which later were described as endophytic squamous papilloma at the histopathological examination. At that moment, a thoracic and abdominal computed tomography (CT)

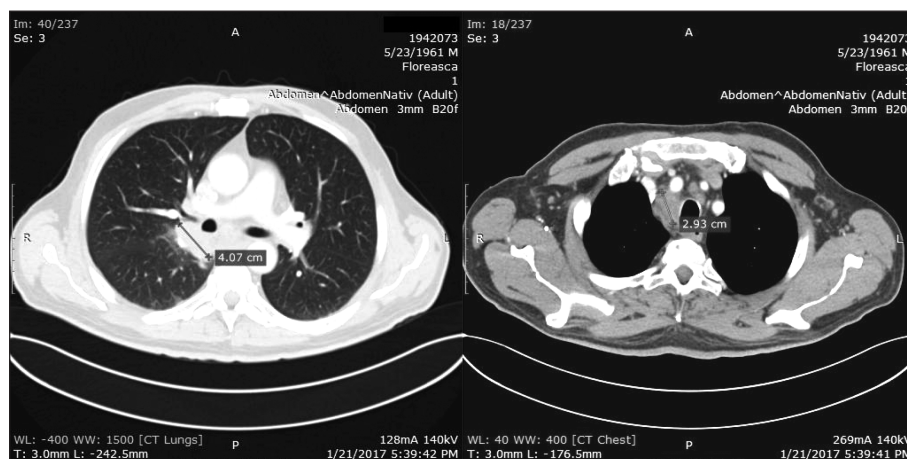


Figure 1. CT scan of the retrohilar pulmonary mass and the mediastinal adenopathies.

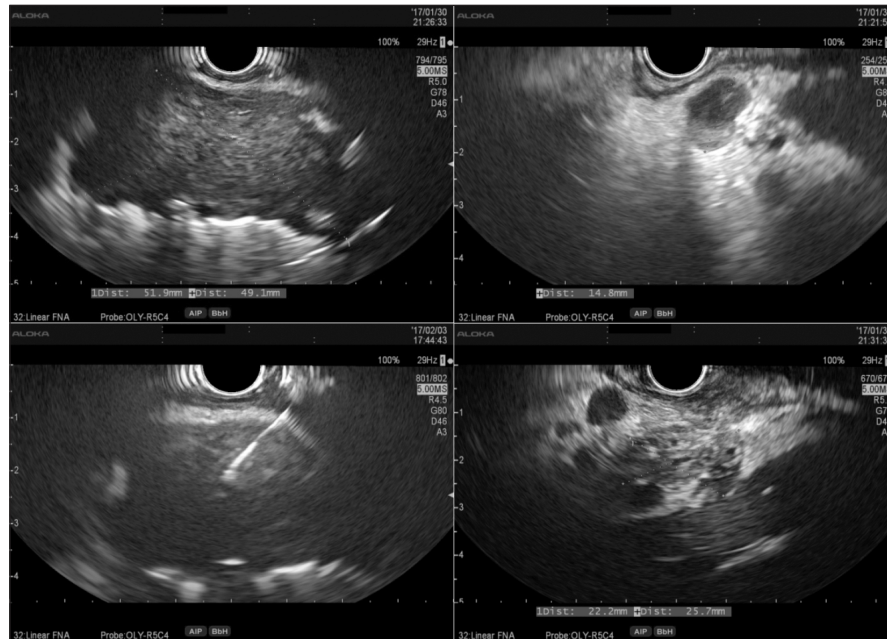


Figure 2. Endoscopic ultrasound and fine needle aspiration (FNA) of the caudal pancreatic mass and the mediastinal adenopathies

scan were performed, that showed a retrohilar mass of 58/44/38 mm, compressing the right inferior lobar bronchus at the origin and the thoracic esophagus in the middle part, multiple adenopathies up to 20 mm in the right pulmonary hilum, and splenomegaly (16 cm) (Figure 1). Furthermore, bronchoscopy and spirometry were performed, both with normal results.

Taking into account that a clear diagnosis was unable to be obtained without a histopathological examination, we decided to perform an endoscopic ultrasound with fine needle aspiration (FNA), as a minimal invasive technique, in order to both assess local extension of the lesions and take multiple

biopsies by fine needle aspiration, to detect the etiology of the mediastinal adenopathies.

Thus, endoscopic ultrasound and FNA with Olympus 22G needle - 2 passages were performed. Multiple mediastinal and subdiaphragmatic adenopathies, up to 20 mm, were visualized, a massive homogeneous, hypoechoic, mediastinal mass of about 60/45 mm, with imprecise delimitation, and minimal peripheral Doppler vascular signal, and a caudal pancreatic mass of about 26/25 mm, non-homogeneous, hypoechoic, imprecisely delimited, with Doppler vascular signal - multiple biopsies by fine needle aspiration were taken from both lesions (Figure 2).

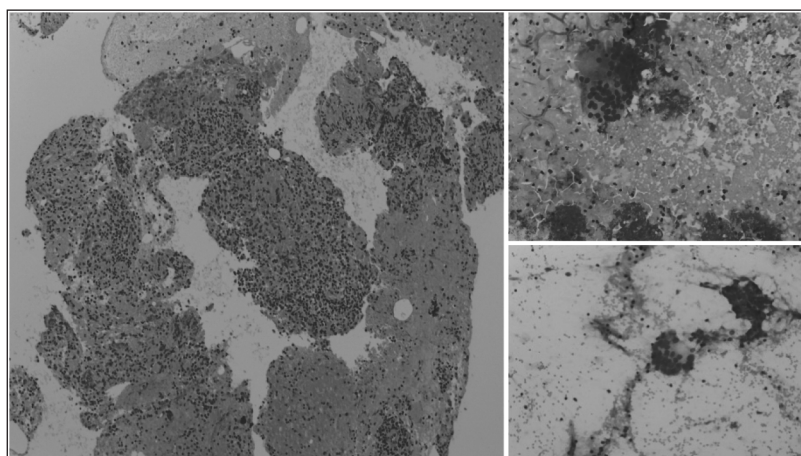


Figure 3A.

Figure 3B

Figure 3. (A) Microscopy images: 100X FNA microfragments with necrotic detritus, predominantly lymphocytic inflammatory infiltrate, in hemalaun-eosin staining, granuloma with epithelioid histiocytes and central necrosis; (B) Giemsa colored smear 200X, with multi-nucleated giant cells, necrotic detritus and inflammatory cellular elements.

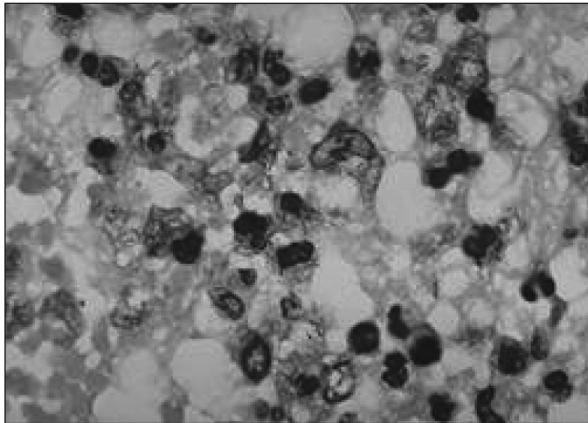


Figure 4. Microscopic image, in Ziehl-Neelsen staining, presenting acid-fast bacilli

The anatomopathological examination of the biopsy and cytology taken through FNA reveals elements of chronic inflammation with neutrophils and lymphocytes, in hemalaun-eosin staining, and multinucleated giant cells (granulomas) with areas of necrosis in Giemsa staining, highly suggestive for tuberculosis (Figure 3).

Furthermore, as the histopathological characters of both pancreatic and mediastinal lesions are similar and the aspects support the diagnosis of a granulomatous inflammatory lesion, a Ziehl-Neelsen staining was performed, revealing acid-fast bacilli, highlighting *Mycobacterium tuberculosis* as the etiological factor (Figure 4).

Therefore, antituberculous chemotherapy was initiated, with isoniazid 300 mg per day, rifampicin 600 mg per day, ethambutol 1600 mg per day and pyrazinamide 2000 mg per day, and their adverse reactions prophylaxis with hepatic protectors, proton-pump inhibitors and pyridoxine for neurological

damage. The treatment was successful, with a significant improvement of general health status and disappearance of symptoms.

At the two months follow-up, the computed tomography scan showed partial improvement as compared to previous examination, with decreased size of both pulmonary and caudal pancreatic lesions and mediastinal adenopathies (Figure 5).

The continuity of the antituberculous chemotherapy initially prescribed and recurrent respiratory infections prophylaxis by annual flu vaccination and administration of oral polyvalent bacterial lysate were recommended.

This case highlights the importance of ultrasound endoscopy with fine needle aspiration in diagnosing mediastinal lymph node tuberculosis in a patient with progressive dysphagia for solids, when the upper endoscopy raised suspicion of an esophageal tumor and the computed tomography was suggestive of lung cancer with esophageal invasion and mediastinal adenopathies.

DISCUSSION

Dysphagia, as a presenting manifestation of tuberculosis, is extremely rare and data regarding clinical, endoscopic and endosonographic features is lacking^{1,8,9}. Positive diagnosis of tuberculosis regardless of organ involvement needs a histological examination with granulomatous lesions present¹⁰⁻¹².

We presented the case of a patient with progressive dysphagia for solids due to extrinsic compression by mediastinal adenopathies. One particularity of this case is represented by contradicting imaging studies that suggested either an esophageal or a pulmonary tumor with mediastinal adenopathies.

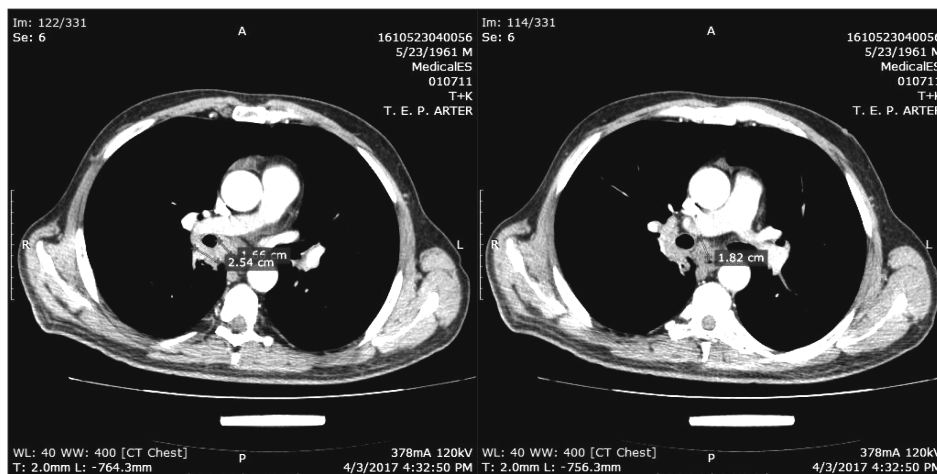


Figure 5. Tomographic images of the retrohilar pulmonary mass and mediastinal adenopathies, at the two months follow-up.

Endoscopic ultrasound with FNA and histopathological examination of the biopsies were performed, in order to establish the benign or malignant nature of the lesion and its etiology. The alternative would have been the surgical approach, with an exploratory thoracotomy, which is associated with many complications, such as pneumothorax, air leaks, infection, bleeding, respiratory failure and mediastinitis.

Another particularity lies in the scarcity of clinical studies and reports regarding EUS with FNA in diagnosing ganglionic tuberculosis, especially when other imaging studies suggested a pulmonary tumor involving the esophagus.

Endoscopic ultrasound (EUS) combines both endoscopy and ultrasound in order to obtain images and information about the digestive tract and the surrounding tissue and organs, assessing the lesions extension and its characteristics through FNA (fine needle aspiration) or FNB (fine needle biopsy)^{13,14}. Fine-needle aspiration is the standard of care for tissue sampling of solid lesions adjacent to the gastrointestinal tract, while fine-needle biopsy may provide higher diagnostic yield with fewer needle passes. Nevertheless, many authors suggest that there is no significant difference in the performance of FNA compared to FNB in the cytologic diagnosis of solid lesions adjacent to the gastrointestinal tract^{6,7}. Thus, a conglomerated mass of heterogeneous, predominantly hypoechoic lymph nodes, with intervening hyperechoic strands and foci on EUS appears to be characteristic of mediastinal tuberculosis^{13,15}.

CONCLUSIONS

The importance of endoscopic ultrasound is increasingly described in determining the benign or malignant nature of lesions that are hardly accessible to non-invasive diagnostic methods. Dysphagia is a rare manifestation of tuberculosis, most commonly caused by an extrinsic compression mechanism due to mediastinal adenopathies. Even though the prevalence of ganglionic tuberculosis is low, it should be taken into consideration in the diagnosis of any patient presenting with dysphagia.

Compliance with Ethics Requirements:

„The authors declare no conflict of interest regarding this article“

„The authors declare that all the procedures and experiments of this study respect the ethical standards in the Helsinki Declaration of 1975, as revised in 2008(5), as

well as the national law. Informed consent was obtained from the patient included in the study“

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