

A 63 years old woman with progressive mechanical dysphagia and weight loss: a case presentation

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ABSTRACT

When considering a patient with dysphagia, an attempt should be made to determine whether the patient has difficulty only with solid boluses (suggestive of mechanical dysphagia) or with liquids and solids (suggestive of a motility dysphagia). Lesions such as an oesophageal tumor and external pressure effect from a lung tumor or aberrant vessel can lead to mechanical dysphagia. Endoscopy and / or a barium swallow are helpful in identifying the anatomical disarrangement. In this study a patient with progressive mechanical dysphagia is presented that finally diagnosed by as Lung Squamous Cell Carcinoma. There were no respiratory symptoms. Diagnosis was made by a computerized tomography scan of the thorax, bronchoscopy and bronchial biopsy.

Keywords: Dysphagia; Lung, Squamous Cell Carcinoma.

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Introduction

When considering a patient with dysphagia an attempt should be made to determine whether the patient has difficulty only with solid boluses (suggestive of mechanical dysphagia) or with liquids and solids (suggestive of a motility dysphagia).

Anatomical lesions, such as an oesophageal tumor and external pressure effect from a lung tumor or aberrant vessel, can lead to mechanical dysphagia. Gastroscopy and / or a barium swallow help identify the culprit anatomical lesion. In this study a patient with progressive mechanical

dysphagia is presented that finally diagnosed by as lung squamous cell carcinoma. There were no respiratory symptoms in our patient. Diagnosis was made by a computerized tomography scan of the thorax, bronchoscopy and bronchial biopsy.

Case presentation

A 63 years old Iranian woman admitted in our hospital due to progressive solid dysphagia and 10 kilogram weight loss in the past three months .She had a history of heart valve replacement surgery at 3 years ago. Physical examination revealed mild temporal muscle atrophy and abnormal heart sound secondary to her known valvular heart disease. Vital signs, lungs, abdomen, pelvic,

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central nervous, and the musculoskeletal examination were all normal. The patient's laboratory findings including blood cell count, erythrocyte sedimentation rate, and kidney and liver function tests were also normal.

As the patient history was suggestive for an esophageal malignancy, an upper gastroentero-intestinal endoscopy was carried out. Endoscopy revealed a short (two centimeters) circumferential symmetrical smooth narrowing in the mid part of the esophagus (from 25 to 27 cm of incisors); the gross appearance of this stricture was normal suggesting external compression. The gastroscope passed through the stricture easily. Other part of esophagus, stomach, and duodenum were normal. Barium swallow confirmed the endoscopic findings but didn't reveal more diagnostic information (Figure 1).

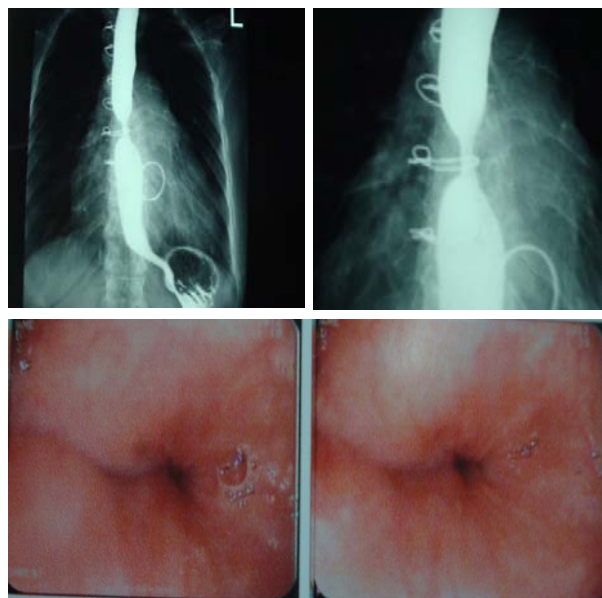


Figure 1. Barium swallow and endoscopy showing short symmetrical smooth stricture in middle part of the esophagus. Gross appearance of esophagus mucosa is normal.

Contrast Computerized Tomography (CT) scan of the chest was performed for further clarifying the nature of the lesion. CT scan revealed an abnormal Soft tissue density with irregular borders

in the posterior mediastinum that was encircling the carina, left main bronchus, esophagus and the mid thoracic aorta (Figure 2).

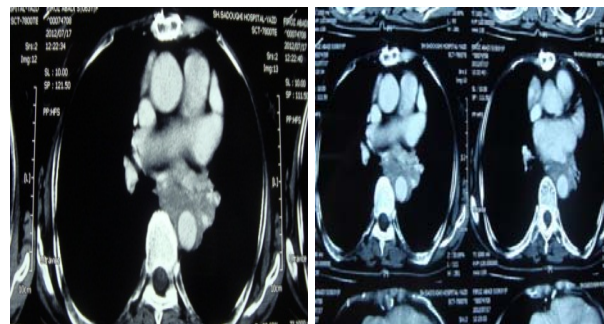


Figure 2. CT scan shows an abnormal soft tissue mass with irregular borders around the esophagus, aorta and left main bronchus.

Due to the external pressure the lumen of the involved segment of esophagus did not appear in CT scan. The upper segment of the esophagus proximal to the lesion was dilated and had air-fluid (oral contrast) level. Other parts of thorax including the lungs, pleura, ribs, sternum, and thoracic spines were normal.

The patient had no respiratory symptoms but since mediastinal lesion seen on the CT scan was taking over the left bronchus and was in close contact to it, bronchoscopy was performed; there was fine mucosal irregularity with about 50% narrowing without apparent mass lesion in the left main bronchus. Biopsy from this trivial bronchoscopic finding revealed bronchial squamous cell carcinoma (Figure 3).

Discussion

Various oesophageal disorders and non-esophageal diseases can cause dysphagia. The clinical history is very important for diagnosing the underlying disease; progressive dysphagia to the solid material can be a sign of esophageal malignancy. Dysphagia to the both solids and

liquids (motor dysphagia) usually occurs in systemic or esophageal neuromuscular disorders.

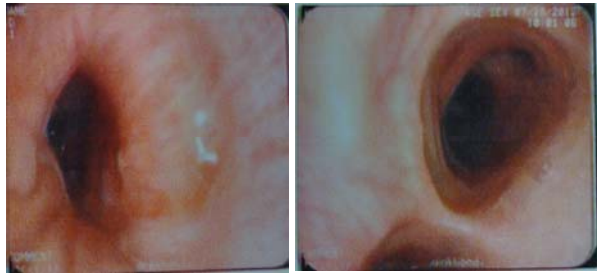


Figure 3. Bronchoscopy showing 50% narrowing and mucosal irregularity in the left main bronchus (left image) and normal right main bronchus (right image)

Mechanical dysphagia

Space-occupying lesions such as foreign body within the lumen of the esophagus or tumor originated from wall of this organ and external pressure effect of a lung tumor can lead to mechanical dysphagia. Diagnosis depends upon procedures such as esophagus endoscopy, barium swallow radiology or CT scan may be needed in approach to mechanical dysphagia.

Motor dysphagia

Both some esophageal motor diseases such as achalasia and systemic neuromuscular diseases such as scleroderma can cause dysphagia to liquids and solids without obvious anatomical culprit. Esophagus manometry, barium esophagogram, and swallow video-fluoroscopy may be required for identifying the cause of motor dysphagia.

In our patient

As mentioned above endoscopy revealed a short circumferential and symmetrical smooth narrowing with normal mucosa in the mid part of the esophagus that was due to an external pressure effect. Barium swallow confirmed the endoscopic findings but did not reveal more diagnostic information (Figure. 1). One of the metallic sutures was seemed to be around the narrowed segment of esophagus at radiograph

and so seemed to be cause of this narrowing. But this was mistaken, because the oesophagus is located in the posterior mediastinum and observed radiopaque sutures are on the sternum, the most anterior part of the chest. Some extra-esophageal diseases can produce external pressure effect on the esophagus in the neck, mediastinum, or abdomen, causing narrowing of the esophagus and mechanical dysphagia; these diseases include: abscesses or tumors of the pharynx, osteophytes or osteomyelitis of the cervico-thoracic spine, thyromegaly, Zenker's diverticula, solid or cystic mediastinal masses (benign or malignant), aberrant right subclavian artery (1), left atrial enlargement due to mitral stenosis, large arterial aneurysms, cystic esophageal duplication (2), large para-esophageal hiatal hernia, fundoplication surgery, mediastinal lymphadenopathy due to sarcoidosis, pulmonary tuberculosis and or fungal infection.

In cases that the mechanical dysphagia was due to an external pressure effect outside of the esophagus, an imaging method that can show the structure of the tissues around the esophagus is necessary; endoscopic ultrasonography and or CT scan are useful for this purpose.

Conclusions

If there is no intraluminal or mucosal lesion in the esophagus endoscopy of the patients with mechanical dysphagia, attention to the other organs that are adjacent the esophagus is useful; imaging techniques such as thorax CT scan or endosonography of the mediastinum may be needed. Because of the close proximity between esophagus with trachea and main bronchi, the tumoral lesions in these respiratory organs may present as dysphagia; in such cases bronchoscopy is necessary for identifying the cause of dysphagia.

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