Case report

Atypical presentation of pneumomediastinum with an unusual oesophageal aetiology

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Case report

A 71-year-old man was referred to hospital because of uncertain dysphagia and high blood pressure. The patient reported about having increasing discomfort swallowing solid food for about 3 days. The day before admission, he was unable to swallow any water and he became hoarse. He denied having former symptoms, e.g. pain, dyspnoea, vomiting and had no preceding traumatic event nor foreign body ingestion. His past medical history revealed no oesophageal or gastric disorders and was otherwise unremarkable.

On admission, blood pressure was 190/110 mmHg, his pulse was regular at 111/min, temperature was 38.2°C and oxygen saturation was 98% while breathing room air. Physical examination revealed bilateral cervical and supraclavicular crepitations. Laboratory studies showed a leucocyte count of 14.6×10^9/l and a C-reactive protein of 17.5 mg/l (normal <15 mg/l). Chest radiography revealed apical soft tissue emphysema (Figure 1). Computed tomography (CT) confirmed cervical and supraclavicular subcutaneous emphysema and also revealed a pneumomediastinum (Figure 2). To exclude oesophageal perforation, a contrast oesophagram was performed. Endoscopic investigation showed severe reflux oesophagitis with circular extension, ulcerations and Barrett’s mucosa (Figure 3). Histopathology obtained Barrett’s metaplasia as well as Helicobacter pylori-positive gastritis.

Under conservative treatment with a proton pump inhibitor, antibiotic eradication of H. pylori and a short phase of nil per os symptoms vanished. After 1 week, the patient was discharged in an asymptomatic state. Meanwhile, the pneumomediastinum was fully resolved.

Discussion

Pneumomediastinum is defined as the presence of free air within the mediastinal space. It may occur due to penetrating, blunt or iatrogenic trauma, broncho-pleural disorders, oesophageal perforation or spontaneously. The main presenting complaints are not only chest pain and dyspnoea, but also less specific symptoms like dysphagia, cough or rhinolalia might occur. In the reported case, the patient did not show the typical symptoms of pneumomediastinum, but presented with severe dysphagia as his only complaint. Physical examination revealed cervical subcutaneous emphysema, which raised the suspicion of a pneumomediastinum, as cervical emphysema can be found in 60% of cases with pneumomediastinum.

As a potentially life-threatening condition, oesophageal perforation as a cause of pneumomediastinum always has to be excluded. Gastroesophageal reflux disease (GERD) as the underlying cause of perforation is rare except for cases with severe oesophagitis or previous endoscopic procedures. In this case, the patient had no history of GERD-related symptoms at all, even though Barrett’s oesophagus as a complication of severe, long-standing GERD had already appeared. It has been described previously that symptom
frequency and severity do not correlate with the degree of mucosal changes apparent in endoscopy and elderly patients often do not experience the classical symptoms of GERD.5

Water-soluble contrast oesophagography is the standard diagnostic procedure, if oesophageal perforation is suspected, but was non-diagnostic in our case. This may be due to tissue oedema, spasm or other factors and false-negative oesophagrams are described in 10–36% of perforations.6

Oesophagogastroduodenoscopy confirmed the diagnosis in our case and also revealed GERD as the underlying cause of a perforated Barrett’s ulcer.

From this case, it can be concluded that a pneumomediastinum must not always present with typical symptoms and clinicians should be suspicious of underlying oesophageal disorders even if the patient has no history of oesophageal diseases. Minor perforations of the oesophagus may not lead to the typical symptoms especially in elderly patients and might not be detectable in an oesophagram. This emphasizes the role of endoscopic procedures to rule out unknown and possibly asymptomatic oesophageal disorders.

Conflict of interest: None declared.

References