Türk Göğüs Kalp Damar Cerrahisi Dergisi 2013;21(3):810-812
doi: 10.5606/tgkdc.dergisi.2013.5311

An unusual self-inserted foreign body in the mediastinum and its management: a case report

Mediastende kendisi tarafından yerleştirilen nadir bir yabancı cisim ve tedavisi: Olgu sunumu

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Although there are cases with mediastinal foreign bodies after several surgical procedures or accidental conditions, self-inserted objects into the mediastinum via hypopharynx due to psychological disorder is very rare. The surgical removal is essential due to the risks of migration, mediastinitis and erosion into great vessels. In this article, we report the management modality with the left cervical incision in 61-year-old schizophrenic female who was admitted with hemoptysis caused by a self-inserted mediastinal foreign body.

Key words: Cervical incision; foreign body; mediastinum.

Bazı cerrahi işlemleri takiben veya kaza sonucu ortaya çıkan mediastinal yabancı cisim olguları olmakla birlikte, kişinin psikolojik hastalığına bağlı hipofarenks aracılığı ile mediastene bir nesne yerleştirmesi oldukça nadirdir. Yabancı cismin cerrahi olarak çıkarılması, yer değiştirme, mediastinit, büyük damarların ve mediastinal yapıların zarar görebilmesi riskleri nedeni ile gereklidir. Bu yazıda, kendisinin yerleştirdiği mediastinal yabancı cisme bağlı hemoptizi yakınması ile başvuran 61 yaşında şizofrenik kadın olguda sol servikal insizyon tedavisi sunuldu.

Anahtar sözcükler: Servikal insizyon; yabancı cisim; mediasten.

Secondary mediastinal foreign bodies have been reported in the literature either due to surgical procedures or migration from the esophagus,[1-7] but no reports exist regarding self-inserted objects of this size that we encountered. The important thing to remember in these cases is to choose the most minimally invasive procedure for removing the large object. If the foreign body is removable via the esophagus, an endoscopic approach may be preferable,[1] but if the object has migrated to the mediastinum, then a thoracoscopy, thoracotomy, or mediastinoscopy is usually performed.[2-5,8] In this article, we report the successful removal of a large, self-inserted foreign body via left cervical access in a schizophrenic female patient.

CASE REPORT

A 61-year-old female presented with recent onset hemoptysis. Because she had psychological problems, it was not possible to obtain a reliable history. Initially, a posteroanterior and lateral chest X-ray was performed, and a metallic foreign body measuring approximately 12 cm in length was detected behind the trachea, which was apparently located in the esophagus (Figure 1). Furthermore, another metallic object was seen on abdominal X-ray. The patient was being treated with antipsychotic medication. This caused an increase in her pain threshold, thus allowing her to be able to insert the foreign bodies.

An esophageal endoscopy was performed, but the foreign body was not detected. In addition, no perforation was seen. Chest computed tomography (CT) determined that the foreign object was located in the posterior mediastinum behind the esophagus, beginning at the level of the thyroid and ending at the carinal plane in the mediastinum (Figure 1). A rigid esophagoscopy was performed, and the point of entry was determined to be the hypopharynx.

Available online at
www.tgkdc.dergisi.org
doi: 10.5606/tgkdc.dergisi.2013.5311
QR (Quick Response) Code

Received: February 08, 2011 *Accepted:* March 16, 2011

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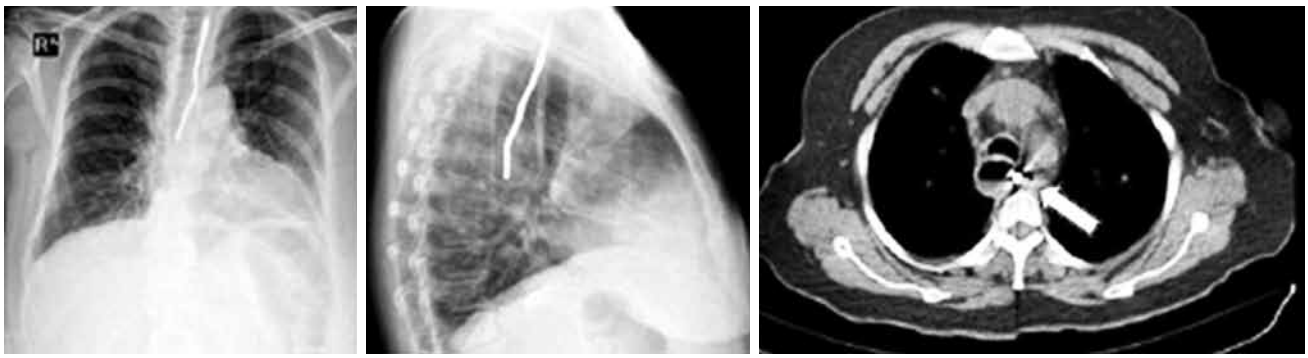

Figure 1. Radiographic image of the foreign body.

We decided that a left cervical incision was the best surgical approach, and to facilitate this, a fluoroscopy was used during the operation. After access to the posterior of the esophagus, the foreign body was removed successfully (Figure 2). The patient was then discharged on the sixth postoperative day without any complications.

DISCUSSION

Mediastinal foreign bodies generally occur as the result of either a surgical complication or migration from the esophagus.[1-7] Retrosternal pain, dyspnea, dysphagia, difficulty in breathing, cough, clinical symptoms of mediastinitis, or hemoptysis (as in our case) are some of the initial symptoms.[1-3,5,7] Common examinations used to confirm the final diagnosis are chest X-rays, chest CTs, bronchoscopies, and esophagoscopies.[1-8]

In cases involving foreign mediastinal bodies, one of the most frequent complications is migration. Sivaraman et al.[8] reported the case of a 27-year-old woman who was diagnosed with a needle in the superior mediastinum that was caused by falling on a box of needles. She did not agree to have surgery because of a lack of symptoms. Three years later, after a chest injury, the needle was revealed between the trachea and superior vena cava. Open surgery by means of a thoracotomy was then performed to remove the needle from the fibrous capsule that had formed over the needle. In our case, the time of injury was unknown, but no fibrous capsule was seen during the surgical procedure, leading to the conclusion that the injury must have happened in the not too distant past. On rare occasions, mediastinal foreign bodies migrate into the trachea. For example, surgical gauze that was inadvertently not removed after a mediastinoscopy can cause cough and shortness of breath. Hence, a prior surgical history is important for diagnosing the presence of foreign objects.[7]

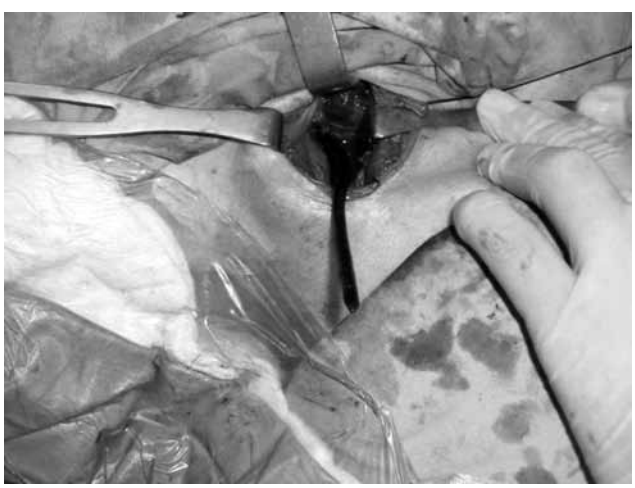

Figure 2. Removal of the metallic body via cervical incision.

Some orthopedic surgical procedures can also result in transmediastinal migration.[5,6] Kirschner wires can cause complications such as esophageal perforation and vascular injury when they migrate. When foreign objects are present, a thoracotomy or a sternotomy can be performed, but if the end of the pins are located in an attainable location, such as the intercostal spaces, then removal without a thoracotomy is feasible.[6] In our case, it was possible to reach the upper end of the foreign body via cervical incision because it was located vertically; therefore, we did not feel the need to perform a thoracotomy.

Early treatment is important due to the possibility of numerous complications, for example mediastinitis, pneumomediastinum, vascular injury, or even death.[1,2,6] Depending on the localization of the foreign object, endoscopic techniques, a mediastinoscopy, video-assisted thoracoscopic surgery (VATS) or open surgery (sternotomy, thoracotomy, etc.) can be performed.[1-8] Swan et al.[1] reported the successful treatment of a perforating fish bone which was

presenting with odynophagia and retrosternal pain. In that case, both endoscopic removal and repair of the mucosal defects were performed during the same procedure. In our case, a cervical incision was preferred because there is a lower morbidity rate with this procedure than with a thoracotomy. In addition, we were able to insert a nasogastric tube to facilitate esophageal dissection, and the fluoroscopy was helpful for navigation during the operation.

In conclusion, this case was unique because of the size of one of the foreign bodies and the fact that the object was self-inserted. Cervical incision, which is less invasive than a thoracotomy, is a surgical alternative for the removal of foreign objects in certain cases. We successfully performed this procedure to remove the object from our patient and believe that cervical incision should be kept in mind for similar cases in the future.

Declaration of conflicting interests

The authors declared no conflicts of interest with respect to the authorship and/or publication of this article.

Funding

The authors received no financial support for the research and/or authorship of this article.

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