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Cervical region transfixed by a sickle: Esophageal perforation

Telma Rodrigues Brito, Eduardo Vasconcelos, Sandra Ferreira, Alberto Midões

CASE REPORT

An 88-year-old woman was farming, carrying a sickle on her shoulder, when she fell down, the sickle partially stuck in her left cervical region. As she was working alone and feeling well, went to seek help. The neighbor called the emergency service that transported the patient to the hospital after immobilizing the sickle in the position they have found it on arrival.

In the emergency department the patient was conscious, with normal pulse and blood pressure and no active bleeding. The computed tomography scan report described a pneumothorax, contralateral to the sickle cervical insertion point, no hematoma or leak of endovenous contrast, and a pathway of the sickle between the vertebral column and the trachea, with a possible esophageal lesion (Figure 1).

After tube drainage of the right hemithorax, an emergency surgical procedure was performed. The chosen approach of the cervical region was an incision medial to the border of the left sternocleidomastoid muscle, with identification of the main left vascular structures that was intact (Figure 2). After the mobilization of the sickle, no active significant hemorrhage was detected. A linear laceration on the posterior surface of the cervical esophagus was identified (Figure 3). Absorbable stitches were used to perform a one layer closure of the defect and a drain was inserted.

Cervical drainage was removed after seven days, the patient was discharged home nine days after the surgery, without any complication.

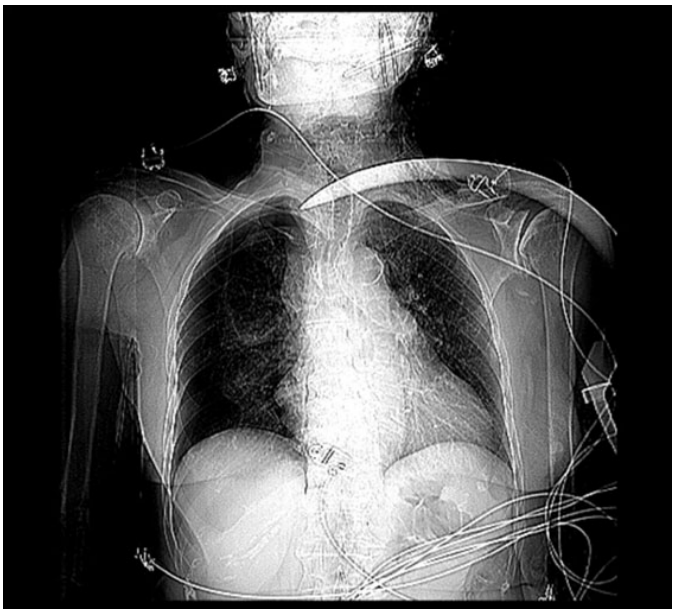

Figure 1: Topogram image. Sickle and a right side pneumothorax.

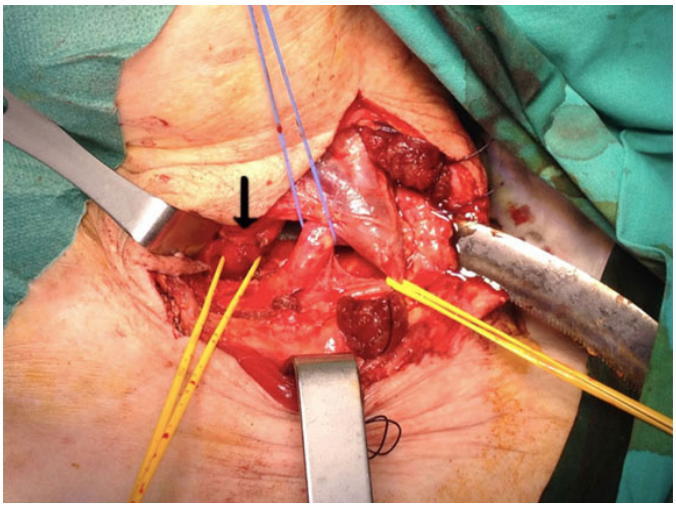

Figure 2: Sickle passing behind the isolated esophagus (arrow) without damaging the referenced major structures.

Telma Rodrigues Brito[1], Eduardo Vasconcelos[2], Sandra Ferreira[2], Alberto Midões[3]

Affiliations: [1]MD, Resident of General Surgery in the General Surgery Department of Hospital de Santa Luzia, Viana do Castelo, Portugal; [2]MD, Surgeon in the General Surgery Department of Hospital de Santa Luzia, Viana do Castelo, Portugal; [3]MD, Director of the General Surgery Department of Hospital de Santa Luzia, Viana do Castelo, Portugal.

Corresponding Author: Telma Rodrigues Brito, Estrada de Santa Luzia, 4904-858 Viana do Castelo, Portugal; Email: rodriguesbrito.telma@gmail.com

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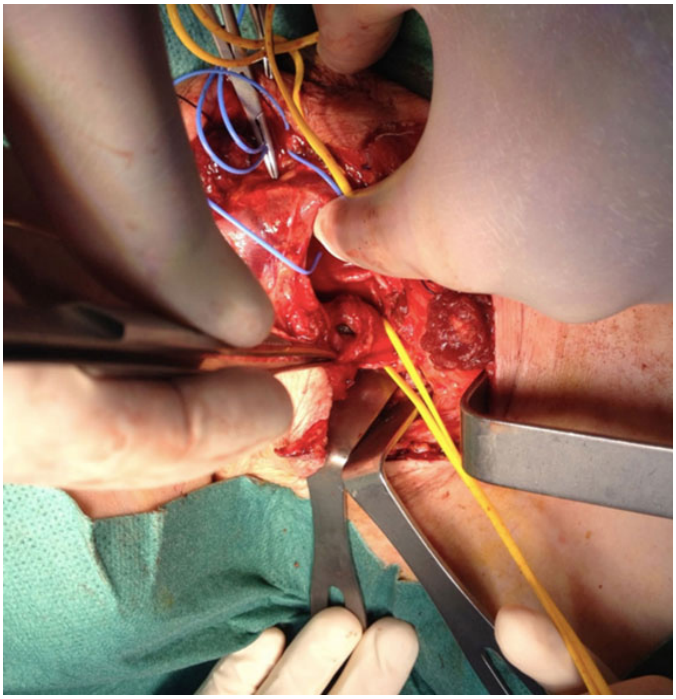

Figure 3: Esophageal laceration pointed by the metallic surgical instrument.

The patient was discharged from follow-up at the one year surveillance appointment.

DISCUSSION

Penetrating esophageal trauma is rare and might be associated with significant morbidity and mortality depending on nearby structures affected. These patient mortality rates are also strongly associated with uncontrolled removal of foreign objects. Isolated esophageal perforation is uncommon because of its anatomical location [1, 2].

The success of the surgical intervention depends on the anatomical knowledge, but also on the location and extension of the lesion and time until treatment. When the esophageal lesion is small and the tissue is viable, a defect correction with suture is recommended. When the injury is extensive or there is significant substance loss, treatment may require a more complex procedure [3].

In this case, several factors combined for clinical success. Despite the presence of a perforating foreign body transfixing the cervical region with contralateral pneumothorax, the patient was transported without the mobilization of the foreign body, pneumothorax was controlled preoperatively and surgical approach to the cervical region revealed no lesion of any major vascular structure or airway, only a small esophageal perforation.

Since suture correction was performed early and appropriate antibiotic therapy was initiated, the patient progressed uneventfully.

CONCLUSION

The hemodynamic status of the patient and the location and extension of the perforation determine the prognosis and the safest treatment. Mortality associated with penetrating cervical trauma is strongly associated with time until treatment and with the presence of associated severe traumatic lesions.

Keywords: Cervical trauma, Esophageal perforation, Penetrating trauma

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Author Contributions

Telma Rodrigues Brito – Conception of the work, Design of the work, Acquisition of data, Analysis of data, Interpretation of data, Drafting the work, Final approval of the version to be published, Agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved

Eduardo Vasconcelos – Interpretation of data, Revising the work critically for important intellectual content, Final approval of the version to be published, Agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved

Sandra Ferreira – Interpretation of data, Revising the work critically for important intellectual content, Final approval of the version to be published, Agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part

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Alberto Midões – Interpretation of data, Revising the work critically for important intellectual content, Final approval of the version to be published, Agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved

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Authors declare no conflict of interest.

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