

LATE SPONTANEOUS CHEST WALL BLEEDING AFTER OPEN THORACIC WINDOW FOR EMPYEMA

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Abstract: We report a 47-year-old male referred to our unit for a pleural empyema, with no response to antibiotic treatment and drainage, who underwent a thoracomyoplasty. Due to the recurrence of the empyema we have performed a modified open thoracic window (OTW) through re-opening of the operative wound. The patient was discharged with a clean and granulating wound, with obvious retraction and reepithelisation. 6 years later he was readmitted for an active bleeding from a small artery arising from the granulation and secondary epithelisation area, which required emergency local hemostasis and blood transfusion.

Cuvinte cheie: hemoragie spontană, perete toracic, fereastră pleurală

Rezumat: Prezentăm un pacient de 47 de ani trimis în unitatea noastră pentru un empiem pleural ce nu a răspuns la tratamentul antibiotic și drenaj, la care s-a efectuat o toracomoplastie. Datorită recidivei empiemului am efectuat o fereastră pleurală tip Eloesser modificată (open thoracic window) prin redeschiderea plăgii. Pacientul a fost externat cu o plagă curată și în curs de granulare, cu epitelizare și retracție evidentă. După 6 ani a fost reinternat de urgență pentru o sângerare activă dintr-o arteră de mici dimensiuni din zona de granulație și epitelizare secundară, care a necesitat hemostază locală de urgență și transfuzie.

INTRODUCTION

Non-traumatic bleeding from the chest wall has been reported with different tumoral lesions (1,2), arterio-venous fistulae (3), chronic infections (4), presence of synthetic materials (5), anticoagulation therapy (6) in a few case-reports, with no large series in the available literature. We report a rare case of spontaneous external bleeding that occurred very late (6 years) after the creation of an open thoracic window (OTW) for an empyema.

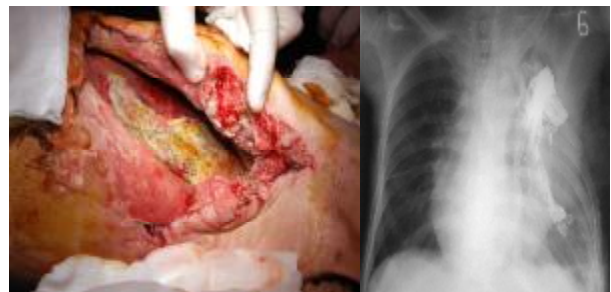
CLINICAL CASE

A 47-year-old male was initially referred to our unit for a pleural empyema with no response to broad spectrum antibiotic treatment and tube-thoracostomy drainage for 2 months. Pleural cultures identified *Klebsiella* and *Streptococcus*. Sputum and pleural liquid cultures, as well as pleural biopsies were negative for tuberculosis; blood tests were positive for syphilis and the patient received specific treatment. Due to the lack of lung reexpansion, we had to perform a thoracomyoplasty with a 5 ribs topographic rib resection associated with a combined serratus anterior and latissimus dorsi intrathoracic transposition in order to achieve a complete obliteration of the infected space.(7)

The postoperative course was complicated by an empyema recurrence, for which we have performed a modified OTW through re-opening of the operative wound, with no additional rib resection (figure no. 1).

Daily lavages and dressings were performed until there was no active infection.

Figure no. 1. Appearance at 3 days after performing a modified OTW due to the recurrence of the empyema. The opacity from the chest X-ray is given by a gauze impregnated with iodoform (right)



For a better cosmetic aspect and a faster healing we proposed coverage of the wound with a rectus abdominis musculocutaneous flap but the patient refused any further surgery. He was discharged after 12 weeks with a clean and granulating wound, with obvious retraction and reepithelisation. He has returned to a normal active life, including hard physical work.

6 years later he was referred to our unit in emergency for an active bleeding from the chest wall which could not be controlled by simple local compression at the local emergency department. We found an active bleeding from a small superficial artery arising from the granulation and secondary epithelisation area (figure no. 2); hemostasis was achieved by two "X" late resorbable stitches. Transfusion of 800 ml of blood was required to correct the anemia (Hb 8.6 g/dl at admittance); standard coagulation tests were normal. The patient was

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discharged 5 days later. During the next year, he presented no other bleeding episode.

Figure no. 2. The source of the bleeding – a small artery located in the area of granulation and secondary epithelisation over the lung parenchyma, without any bronchial fistula. Note the ineffective compressive bandage



DISCUSSIONS

OTW was popularized by Eloesser in the 1930-40's as a solution for chronic tuberculous empyema (8) but is nowadays a rarely performed procedure. It involves a limited rib resection with the creation of a permanent stoma between the infected pleural space and the outside, which allows the drainage of the pus and cleaning of the infected cavity. Complete spontaneous healing is possible by retraction and secondary epithelisation of the wound.

The procedure is attractive by simplicity but it has an unpleasant esthetic aspect and it requires daily dressings for a long period (months or even years). These are the main reasons why this procedure is nowadays rarely performed, mainly in desperate cases when other less mutilant procedures are not possible or have failed.(9,10) As a matter of fact, in our days, most of the intrathoracic infections that require surgery can be managed by less mutilant procedures even in the presence of complicated lesions.(11,12)

Our patient had a significant bleeding which could not be solved by simple local compression and resulted in anemia requiring blood transfusion. The source of this bleeding was a small artery located in the area of granulation and secondary healing. Due to the fixed lung, the bleeding from the chest wall did not result in a hemothorax as reported in some cases (13), but in an external hemorrhage which was easy to diagnose and control. Due to the superficial location, hemostasis was not technically challenging. Other case reports of spontaneous hemorrhage from the chest wall required more complex procedures to achieve hemostasis.(2,14,15)

This bleeding occurred during an episode of hard physical activity but without any direct trauma. A possible explanation for this spontaneous rupture of the artery may be an excessive stretching secondary to the contraction of the neighbourhood muscles. Considering the benign etiology of this bleeding, the long-time prognosis is good despite a certain risk for recurrence of the hemorrhagic episodes.

CONCLUSIONS

This case presents a rare cause of spontaneous bleeding from the chest wall and illustrates the difficult and complicated course of the patients after OTW (16), with possible late complications even years after surgery.

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