Closure of esophageal–pleural fistula using a cardiac occluder in a patient with systemic scleroderma

Oleksandr Kiosov1,3, Vladyslav Tkachov2,3, Sergii Gulevskyi3

1Department of General Surgery and Postgraduate Surgical Education, Zaporizhzhia State Medical and Pharmaceutical University, Zaporizhzhia; 2Department of Faculty Surgery, Zaporizhzhia State Medical and Pharmaceutical University, Zaporizhzhia; 3Multidisciplinary Surgical Department, University Clinic of Zaporizhzhia State Medical and Pharmaceutical University, Zaporizhzhia, Ukraine

Cardiac occluders are increasingly employed beyond their approved indications to address intricate or recurrent esophageal fistulas.1 A 69-year-old woman with systemic scleroderma underwent a thoracotomy and diverticulectomy for a symptomatic midesophageal diverticulum. However, an esophageal-pleural fistula formed postoperatively. A percutaneous endoscopic gastrostomy tube was then inserted. Different methods had been tried to no avail, including a fully covered stent positioned within the esophagus over the fistula that caused permanent pain and discomfort and was removed after 1.5 months; two consecutive endoscopic attempts at a 2-week interval to glue the fistula with Histoacryl (B/Braune); endoscopic clips, which only lasted 3 days; and two attempts to close the previously ablated fistula by securing a surgical hemostatic sponge to the mucosa with clips. Over time, the esophageal wall defect increased from 2 mm to 8 mm (Fig. 1A), causing pleurisy. A ligature was attached to the end of the delivery device of a Cardia Ultrasound (Cardia Inc.) 28×14 mm atrial septal defect occluder and grasped with biopsy forceps, which had previously been passed through the instrumental channel of the gastroscope. The delivery device was delivered parallel to the gastroscope and positioned using forceps, and the occluder was deployed under visual control to close the fistula (Fig. 1B-D). The procedure was performed with the patient under deep propofol sedation. Esophagography performed the next day confirmed the absence of leakage and correct device placement (Fig. 2). Endoscopy performed 1 month later confirmed that the occluder remained unmoved (Fig. 3). Three months later, no recurrence was noted and the patient tolerated an unmodified diet.

Patients with systemic scleroderma tend to have chronic non-healing wounds due to pathological alterations in the immune system, which can lead to chronic inflammation and fibrosis. This can result in healing difficulties and the formation of fistulas. The use of cardiac occluders in such cases can be a viable option, as demonstrated in this case. The occluder was able to close the fistula effectively, preventing further complications and allowing the patient to return to a normal diet. This approach highlights the potential of cardiac occluders in managing esophageal fistulas, even in challenging cases with systemic sclerosis.
The treatment of fistulas in such patients can be very difficult because of the chronic relapsing disease course; thus, non-standard approaches are required. A cardiac occluder may be an effective alternative therapy.

Conflicts of Interest
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ORCID
Oleksandr Kiosov https://orcid.org/0000-0002-0212-1549
Vladyslav Tkachov https://orcid.org/0000-0002-5583-4921
Sergii Gulevskyi https://orcid.org/0000-0002-2115-4135

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