Surgical management of an esophagotracheal fistula as a severe, late complication of repeated endoscopic stenting treatment

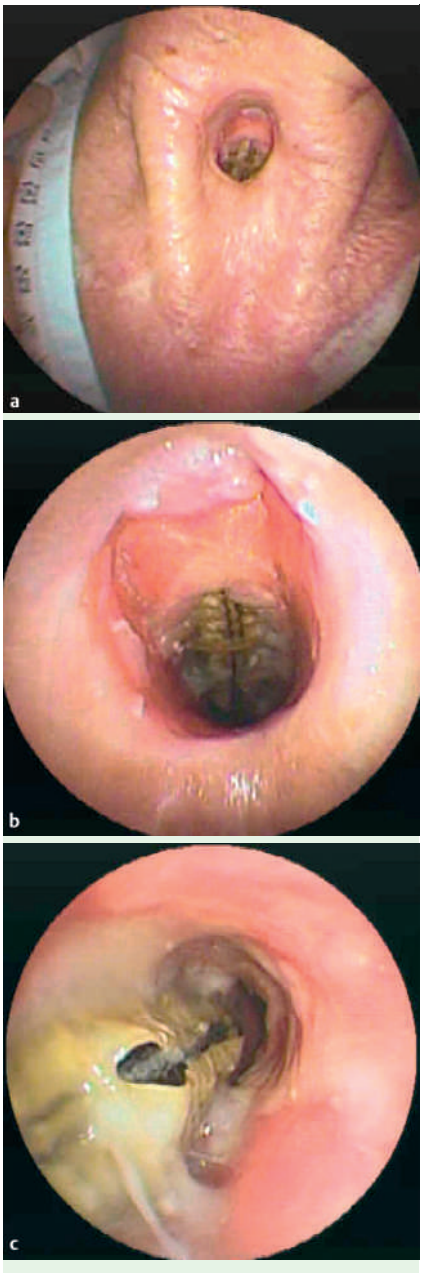

Fig. 1 **a, b** View through the tracheostoma showing the complete necrosis of the posterior wall of the trachea and the esophageal stent with the broad coating defect. **c** Compression to 20% of the tracheal lumen by the protruding esophageal stent.

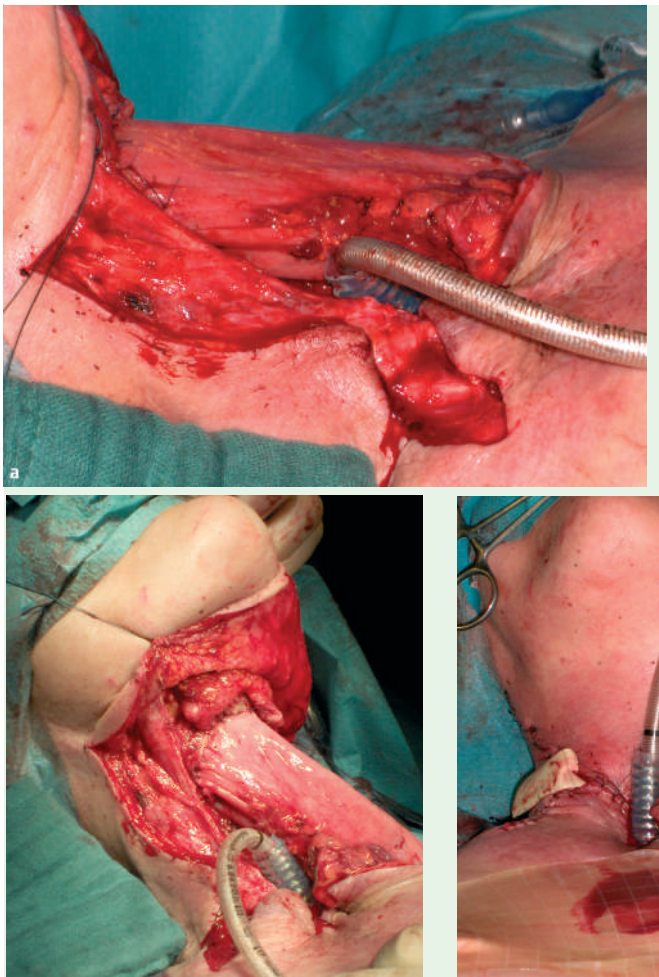

Fig. 2 **a, b** Reconstruction with a pharyngogastrostomy and a temporary T-tube in the trachea. **c** Closure of the cervical skin defect with a mesh graft.

An acquired, nonmalignant esophagotracheal fistula is an uncommon and difficult problem in clinical management. A few reports [1–5] describe various clinical examples and treatment solutions to the problem, but due to the rarity of the problem, guidelines for effective management have not been established.

In 1977, a 29-year-old woman with a thyroid carcinoma underwent thyroidectomy, neck dissection, radioiodine therapy, and telecobalt radiation. In 1997 she presented with dyspnea and dysphagia due to a retrolaryngeal stenosis. She underwent tracheostomy, repeated balloon dilation, and argon plasma coagulation therapy. The tracheostomy could then be removed 1 year later. However, in 2001 the stenosis relapsed, and placement of a tracheal stent was necessary. In 2003, esophagotracheal fistula and bilateral recurrent laryngeal nerve palsy were first described for this patient. Despite tracheostomy and an esophageal stent, a percutaneous gastrostomy was necessary to enable enteral nutrition. Recurrent overgrown stents were treated by overstenting, but in November 2005 recanalization was no longer possible. Beyond it, a wide esophagotracheal fistula developed with necrosis of the posterior wall of the whole trachea (**Fig. 1 a, b**). The stent showed a broad coating defect, with the tracheal lumen compressed to 20% (**Fig. 1 c**). Recurrent scabs and mucus of the respiratory tract with dyspnea

indicated the necessity for surgery, after recurrence of thyroid cancer was ruled out.

The larynx and trachea were resected and replaced with a tracheal T-tube. After extraction of the esophagus stent, and the resection of the esophagus, the sternoclavicular joints, and the manubrium sterni, the thoracic inlet was then closed with a pedicled sternocleidomastoid muscle, and a retrosternal interposed end-to-side pharyngogastrostomy was performed (**Fig. 2 a, b**). The cervical skin defect was closed with a mesh graft (**Fig. 2 c**). Acute, postoperative bleeding from the right carotid artery, caused by stent remnants, was stopped by interventional placement of a coated endovascular stent. The T-tube in the trachea was removed 29 days postoperatively, and the patient was discharged on day 42.

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Bibliography

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