The Cuffed Esophageal Prosthesis: a Life-Threatening Instrument

A cuffed tube manufactured by Wilson and Cook was introduced for the treatment of esophagobronchial fistulas by Lux et al. (1) in 1987. There have been several case reports of successful treatment with small patient numbers (2–4); in a recent paper, Sargeant et al. (5) presented data on 16 patients who were treated with the cuffed prosthesis because of esophagorespiratory fistulas (n = 10), large endoscopic instrument tears (n = 3), or life-threatening arterial bleeding from cancers of the gastric cardia (n = 3). There are no data either on complications or on the long-term course of patients with this prosthesis. Although the manufacturing company conducted a survey several years ago, the results were never published.

We would like to draw attention to a possible complication and to present the appropriate management of it. Sargeant et al. are the only ones to mention that acute respiratory distress may develop shortly after intubation, since the cuff may protrude through the fistula and obstruct the involved bronchus. Our experience includes 15 patients in whom the cuffed endoprosthesis was inserted for treatment of esophagotracheal, esophagobronchial, or esophagopleural fistulas. In four cases, during expansion of the balloon the prosthesis perforated through the tumorous fistula into the bronchial system, causing total or subtotal blockage of the respiratory tract, so that ventilation by the anesthesist was nearly impossible. In all these cases, the length of the fistula exceeded 1 cm. Immediate bronchoscopy revealed a prolapse of the cuff with occlusion of the bronchial lumen, so that a bronchial stent (Dumont, Strecker, Freitag) had to be inserted to push the prolapsed tube back into the esophageal wall. The complication was satisfactorily handled with this double stenting technique, and the patients survived up to three months. In one additional patient, the lethal perforation of the cuffed endoprosthesis occurred on the tenth day after implantation, as shown on the subsequent autopsy.

Figure 1: Prolapse of the cuff into the trachea, with partial obstruction.

Figure 2: Double stenting of the esophagus and trachea in a malignant fistula after balloon prolapse into the respiratory system.

We therefore changed our policy, and use the cuffed tube in esophagobronchial fistulas only after primary insertion of a stent into the trachea or bronchial system (Y-stent). Figures **1** and **2** show a 74-year-old patient with an esophagobronchial fistula, who was treated with double stenting. We believe that the cuffed esophageal prosthesis should only be inserted in institutions in which stenting by an experienced bronchoscopist is readily available. According to Neuhaus (6), a plastic-coated Wallstent produced in Korea can solve the above problem without causing balloon prolapse through a large fistulous tract.

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