



Highlights on the Management Laryngotracheal Stenosis (LTS)

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Abstract

The literature abounds with articles describing the management of LTS. Several authors have reported enthusiastic results; however, the diversity of these reports leads to the conclusion that none is completely satisfactory.

Introduction

This dilemma is expressed effectively by the following statement: "The results of the treatment of subglottic stenosis are universally poor. Although isolated claims of remarkably good results in the treatment of this lesion are made by the occasional surgeon, they cannot be reproduced consistently by experienced laryngologists of long-standing merit. The key to the subglottis is the cricoid and it does not appear that we have not yet found a satisfactory solution to preserve the integrity of the only complete ring of the respiratory tract" [1]. A more recent series confirmed that patients with cricoid involvement are more likely to be tube dependent [2].

Scleroma

Scleroma affecting the subglottis with resultant stenosis and stridor is endemic in Egypt. Scar removal, coverage of the exposed cartilage with skin or mucosal graft and insertion of the Montgomery tube through laryngofissure were the leading surgical procedures in our department. Later, resection of the stenotic segment, including the central portion of the cricoid cartilage, was adopted in patients at the fibrotic stage. An 80% decannulation rate was achieved in this way [3]. Unfortunately, despite initial fibrosis, a delayed recurrence of the disease was observed in all patients, and in one case, after eight years of regression. A less morbid protocol of repeated dilatation is therefore recommended.

Traumatic stenosis

Laryngeal stenosis: Laryngeal stenosis is often irreparable. Patients with minor stenosis should be informed that additional manipulation and scarring of surgery could end in them having to undergo tracheotomy for life [1].

In this context, surveillance is recommended, along with regular monitoring of the degree of their stenosis via video endoscopy and CT scan.

Furthermore, tracheotomy with speaking valve is the most optimal decision in cases where the airway is severely compromised. To this end, supracricoid partial laryngectomy has been prescribed for some cases of severe laryngeal stenosis [4].

Cervical tracheal stenosis: Different techniques including endoscopic and open surgical ones are available for this condition. The most widely used technique is tracheal resection and end-to-end anastomosis. Others include external tracheoplasty (with/without grafting) and possible stenting, laryngotracheal expansion and anterior and posterior cricoid split.

Laryngotracheal resection carries the risk of complications in as many as 20% of the patients, which, in rare occasions, can be fatal. Anastomotic separation is associated with a thirteen-fold increase in the risk of death following tracheal resection [5].

Our policy is to avoid surgery in patients who have developed keloid, since they are more at risk of developing considerable scar at the anastomotic site and, therefore, of surgical failure.

Mucosal burns during laser dilatation attempts will further compromise the airway after a period of initial improvement. Supraglottic laser epiglottectomy may be useful in the rare cases where stenosis affects the supraglottic area above the level of the glottis [6].

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Stents: There is a great tendency of blockage of the stent, no matter the type. An ideal, widely used short-duration suprastomal stent does not exist. Serious complications including death may occur. Whether stents should be used at all is a controversial debate [7].

Metallic stents are incorporated into the mucosa. An open approach is often mandatory for extracting the blocked stent. Patients residing at the outskirts of tertiary care centers are at greater risk due to the lack of trained personnel who can deal with this mishap.

Children: Overall, any technique or device that nullifies the need for surgical intervention decreases morbidity. In this sense, we are following the old policy that calls for tracheotomy only. Decannulation is possible a few years later, due to the expected growth of the larynx. Laryngotracheal Reconstruction (LTR) is reserved for those rare lesions where no lumen is demonstrable. We usually postpone surgery to allow growth of additional luminal [8].

Around 20% of patients undergoing LTR experience some complication; few of these can be fatal. Therefore, in case of children, parents must be well informed prior to making any significant decisions about the procedure [9,10].

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