CERVICAL TRACHEAL RESECTION WITH END - TO -END ANASTMOSIS FOR POST INTUBATION TRACHEAL STENOSIS PATIENTS: RISK FACTORS, OUTCOME AND COMPLICATIONS

Alaa Eldeen Hazem Gaafar, Mostafa Magdy Donia, Abdelraouf Mohamed Abdelraouf

Department of Otorhinolaryngology, Faculty of Medicine, Alexandria University

Introduction

Tracheal stenosis can present very insidiously as a catastrophic episode requiring cardiopulmonary resuscitation. Trauma is the most prevalent cause of laryngotracheal stenosis, which can be a complication of endotracheal intubation, tracheotomy, laser surgery, irradiation, and endotracheal tube burns, or external as a result of severe or penetrating neck trauma.

Many treatment modalities were proposed to treat tracheal stenosis such as endoscopic dilatation, laser assisted procedures, stenting and open surgical intervention like tracheal resection with end-to-end anastomosis or tracheoplasty. Tracheal resection with end - to - end anastmosis has been proposed to be the method of choice of treating post intubation tracheal stenosis patients.

In this study we discussed our experience, drawbacks and outcome of resection of the trachea and anastomosis in patients with tracheal stenosis as a complication of intubation.

Aim of the work

The work of the study was to assess outcome and complications of tracheal resection with end to end anastomosis in the management of cervical post intubation tracheal stenosis.

Subjects and Methods

The total number of cases in our study was 27 cases, 19 of them were males and 8 of them were females. Participants were divided into Retrospective group: included 20 patients with airway obstruction secondary to post intubation tracheal stenosis whom were operated with cervical tracheal resection with end-to-end anastomosis in the last five years (2015 to 2019). While the second was the Prospective group: included 7 patients with post intubation tracheal stenosis whom were being operated with cervical tracheal resection with end-to-end anastomosis between January-September 2020.

Results

Table 1: Comparison between the two studied groups according to procedure

Procedure	Total (n= 27)		Retro (n = 20)		Prospective (n = 7)	
	No.	%	No.	%	No.	%
Tracheal resection + Cricotracheal anastomosis	17	63.0	11	55.0	6	85.7
Tracheal resection + Tracheal anastomosis	8	29.6	7	35.0	1	14.3
Partial resection	2	7.4	2	10.0	0	0.0

Table 2: Distribution of the studied cases according to complications and their management

	Complication	Management
No	18 (66.7%)	
Yes	9 (33.3%)	
Chest infection	2 (22.2%)	Medical treatment
Dysphagia	1 (11.1%)	Swallowing rehabilitation
Necrotizing trachieitis	1 (11.1%)	Tracheostomy
Stenosis at suture line	1 (11.1%)	Multiple endoscopic dilatations
Surgical emphysema	1 (11.1%)	Exploration and resuturing
Suture rupture	2 (22.2%)	Urgent Tracheostomy
Left VC paralysis	1 (11.1%)	Follow up

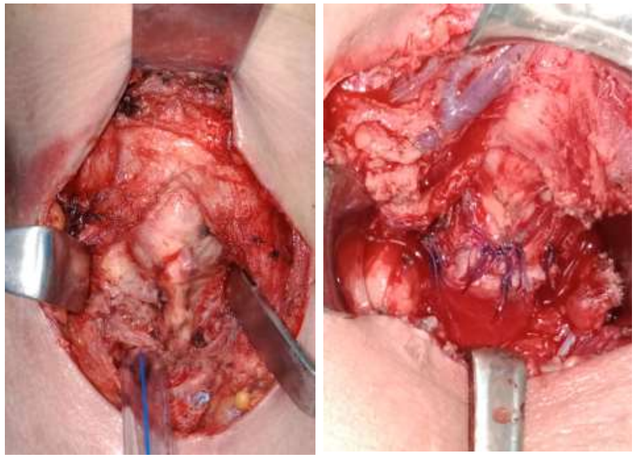

Figure : intra operative photos showing stenotic segment of the cevical trachea and its anastmosis after resection by vicryl sutures.

Conclusion

- Although our study had small number of subjects (27 patients), It proved that segment resection is the best method for treating stenosis of the trachea because the long term survival rate of 95% of treated patients.
- The results of this study showed that ventilation by endotracheal tube is the leading cause of stenosis of trachea with agreement of most of studies.
- It is possible to do up to five centimeters tracheal resection and primary anastomosis including mobilization of the larynx when necessary.