

EFFICACY AND SAFETY OF CRE BALLOONPLASTY IN BENIGN TRACHEAL STENOSIS

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Background: Benign tracheobronchial stenosis of the proximal airways can result from variety of condition and can cause dyspnoea, cough, wheeze, stridor or recurrent pulmonary infection. A variety of modalities may be used to manage this strictures, none of this documented to be uniformly effective. Flexible bronchoscopy with balloon dilatation was described in 1991. We are presenting our experience with CRE Balloonplasty in tracheal stenosis.

Method: All patients with the diagnosis of benign tracheal stenosis with some of complication referred to our department since May 2010 to Nov 2013. All patients with different etiology of stricture treated with CRE balloon catheter (sizes 5-8-10mm, 10-11-12mm or 12-13.5-15mm) passes via working channel of videobronchoscopy(Olympus) under deep sedation and airway was protected by i-gel, procedure done in fully equipped endoscopy suite. The etiology, size, location and degree of stenosis pre and post procedure, number of intervention of each patient, complication of procedure and failure were noted.

Results: Study cohort of 20 patients: female - 14 numbers. Distribution of stricture include subglottic-6, proximal trachea-5, midtrachea-5 and distal trachea-4. Prolong intubation by endotracheal tube was the most common cause followed tracheostomy and Wegmer's granulomatosis, post Tb sequelae and traumatic. CRE-Balloon dilatation was performed first in some cases of web like stenosis, cautery-kink was used and 3 incision at 12, 4 and 8 o'clock were made. If required adjunct other modality used like electrocautery was used in 12 pt, Mitomycin local application in 3, intralesional steroid instillation in 7 and systemic steroid in 8. 3 Patients had mucosa laceration and bleeding, one had pneumothorax and one had death- innominate artery aneurysm rupture arising in tracheal wall. Quarter of procedures was done on hospitalization. Average 3 times procedures done, Failure of procedure, surgical correction required in 4 patients.

Conclusion: Balloonplasty with a CRE balloon catheter performed via videobronchoscope was an effective and relatively safe procedure when use in selected cases. Failure of procedure is high in diffuse involvement of trachea with damaged cartilage. Web shaped fibrotic stricture response to well. All patients were well tolerated procedure under deep sedation and i-gel.

Clinical Implications: balloon dilation is a relatively safe procedure in the management of benign tracheal stenosis. Our results are encouraging and combined with other adjunct therapies may be offered to symptomatic patient as initial treatment, diffuse involvement of trachea with cartilage damage should be offered surgery as they get highest chance to be failed.