INTRODUCTION

Nasal obstruction is a very common problem as it is the presenting symptom of a large number of patients in otolaryngology practice ***(McCaffrey and Kern, 1979).*** Millions of pounds are spent annually all over the world on medication and surgery for nasal obstruction ***(Kimmelman, 1989).*** .

Nasal obstruction can be due to variety of mucosal and anatomical factors and many patients both play a role. The main anatomic causes of diminished nasal patency are deviations of the septum and insufficiency of the internal or the external nasal valves ***(Robert, et al, 2004).***

It is generally accepted that the nasal valve area constitute the narrowest part of the nose and it has the greatest resistance to nasal airflow as it is responsible for 40% to 50% of the respiratory resistance ***(Deylempour, et al, 2005)*** . The nasal valve area is bounded by the nasal septum medially, the floor of the nose inferiorly and the head of the inferior turbinate laterally. The apex this valve area lies the caudal border of the upper lateral cartilage and the nasal septum forming an angle of 10° to 15° with cross-sectional area approximately 40-55mm ***(Shaida, et al, 2000).***

Nasal valve collapse is the result of various causes. One of the most important is the failure of the lateral structures of the nose during rhinoplasty ***"Bottini et al., 2007).*** Other causes include trauma and congenital flaccidity of the upper lateral cartilage. The malfunctioning of the valve is responsible for nasal obstruction and respiratory difficulties,

generating problems of both static and dynamic nature ***(Furlan et al., 2003).***

Incompetence of INV is a relatively common problem in Caucasians and many surgical techniques to correct this deformity have been reported ***(Myung et al., 2008).*** Procedures used including suspension of the upper lateral cartilage to the nasal bone ***(Parkes and Kanodia,1981),*** using a splay or butterfly conchal graft ***(Guyuron, et al,1998),*** maintaining the convexity of the cartilages with mattress sutures ***(Meyer, et al, 1996),*** bending the upper lateral cartilage ***(Seyhan,1997),*** suturing the upper lateral cartilages together over the dorsal septum ***(Sciuto and Bernardeschi,1999)*** and using a spreader graft ***(Sheen , 1984).***

Sheen(1984) described placing rectangular cartilage graft subperichondrally between septum and upper lateral cartilage , he used his technique after hump resection to prevent upper lateral cartilage from collapsing against septum. The main advantage of spreader graft in its ability to correct lack of dorsal support to lateral nasal walls. Since Sheen original article, spreader grafts have become widely used for both cosmetic and functional purposes ***(Robert, 2004).***

Reconstruction of the internal nasal valve with a splay conchal graft was originally described by ***Guyuron, et al, (1998)*** then modified by ***Deylamipour, et al,(2005)*** . They used autologous conchal cartilage as a splay graft using the most of its elastic power of recoil for opening the internal nasal valve.

The objective means of evaluating the nasal obstruction is needed to assist in the clinical evaluation of the patients, and to document the degree of obstruction and improvement after treatment ***(Jalowayski, et al, 1983).*** There are a number of available techniques for objective assessment of nasal patency from them acoustic rhinometry and rhinomanometry have been proved to be the most reliable and most accurate methods for assessing the nasal function ***(Fisher, 1997).***

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