

Original Research Article

A comparative study of endoscopic verses conventional septoplasty

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ABSTRACT

Background: Septoplasty is the surgical procedure for the correction of a deviated nasal septum. It can be achieved either with an endoscopic or a conventional approach. Endoscope allows better visualization and magnification, helps in enhancing surgical procedure accuracy and there is also no need for overexposure, excessive septal anatomy manipulation, osseocartilaginous disarticulation of the nasal septum and further resection. Endoscopic septoplasty is not only used to address symptomatic nasal obstruction, but also to improve visualization in sinus surgery. This study was conducted to compare intra operative bleeding of the two techniques in treatment of deviated nasal septum.

Methods: The present study was conducted in the department of otorhinolaryngology, Prince Mohammed hospital and Aseer central hospital. The study was conducted in 30 patients having symptomatic DNS, in the age group of 18-50 years after obtaining their consent. The patients were randomly divided into two groups of 15 patients each. Group A (n=15) underwent endoscopic septoplasty and group B (n=15) underwent conventional septoplasty under general anesthesia. The two groups were compared regarding intra operative bleeding of surgery.

Results: In conventional septoplasty there is more bleeding during surgery but in Endoscopic septoplasty the bleeding is less during surgery.

Conclusions: The endoscopic septoplasty offers an alternative to conventional technique with superior visualization, excellent illumination and excellent tool for teaching. It preferred for posterior deviation, whereas conventional septoplasty is still preferred for anterior deviation.

Keywords: Septoplasty, Conventional, Traditional, Endoscopic, Bleeding

INTRODUCTION

Septoplasty is the surgical procedure for the correction of a deviated nasal septum.¹ It can be achieved either with an endoscopic or a conventional approach.

The application of the endoscopic technique for septal deformity correction was initially described by Stemberger in 1991.²

Lanza et al later described a detailed endoscopic approach for the treatment of isolated septal spurs.³

Endoscope allows better visualization and magnification, helps in enhancing surgical procedure accuracy and there is also no need for overexposure, excessive septal anatomy manipulation, osseocartilaginous disarticulation of the nasal septum and further resection.^{4,5}

Endoscopic septoplasty is not only used to address symptomatic nasal obstruction, but also to improve visualization in sinus surgery.⁶

This study was conducted to compare intra operative bleeding of the two techniques in treatment of deviated nasal septum.

METHODS

After getting approval from IRB, this prospective cohort study was conducted in the department of otorhinolaryngology, Prince Mohammed hospital and Aseer central hospital during the period from Oct 2019-Dec 2020. The study was conducted in 30 patients having symptomatic DNS, in the age group of 18-50 years after obtaining their consent.

The patients were randomly divided into two groups of 15 patients each. Group A (n=15) underwent endoscopic septoplasty and group B (n=15) underwent conventional septoplasty under general anesthesia.

The sampling technique: after the consent patient for surgery, the two groups were compared regarding intraoperative bleeding during surgery. And all statistical tests were performed with SPSS software.

Inclusive criteria

All the patients with deviated nasal septum of both gender who presented with nasal obstruction, as an adjunct to FESS and as an adjunct to septorhinoplasty were included in the study.

Exclusive criteria

Patients with revision septoplasty, patients with history of sinonasal malignancy, radiation therapy to the head and neck, craniofacial syndrome, chronic nasal granulomatosis diseases (e.g., Wegners, sarcoidosis, etc.) and pregnancy were excluded from study.

Endoscopic septoplasty operative technique

Performed under general and after applied nasal pack with gauze soaked in xylometazoline HCL 0.1% for 5 min then injection of 2% xylocaine with adrenaline as 1:100,000. dilution on both the sides of the deviated septum.

All 15 patients in group A are given a caudal incision to the most deviated part of the septum with the aid of the 0-degree endoscope. Using a 0-degree endoscope, mucoperichondrial flap elevation was achieved with an elevator under direct endoscopic visualization. Then, a few millimeters after the mucosal incision, the deviated part of the septal cartilage is incised while the opposite mucosal is intact and elevation of mucosa up to the complete extent of the septal deviation. Excision of the deviated septum was achieved by endoscopic scissors. The mucoperichondrial flaps were repositioned after deviated part removed, only one or no stitch was required in majority of the cases. The nasal cavity was packed with gauze soaked in xylometazoline HCL 0.1% removed after 3 hours.

Conventional septoplasty operative technique

Other 15 patients in group B underwent conventional septoplasty with the headlight nasal speculum and nasal pack as endoscopic approach, injection as endoscopic approach and left hemitransfixion with freer dissector elevation up to bony septum. Then 1 cm from caudal septum cartilage incised and flap elevated from opposite side osseocartilaginous junction disarticulated and deviated part removed with mucosa repositioned with 2 stich sciolistic sheets applied and nasal pack as endoscopic approach.

RESULTS

All patients belonged to the gender and age group of 18-50 years in our study.

The male account 63% and female 37% (Figure 1). 21 patients of them having only deviated nasal septum, 7 patients have chronic sinusitis with nasal polyposis and DNS, 1 septoplasty done for him as part of septorhinoplasty (Figure 2). In conventional septoplasty there is more bleeding during surgery but in endoscopic septoplasty the bleeding is less during surgery.

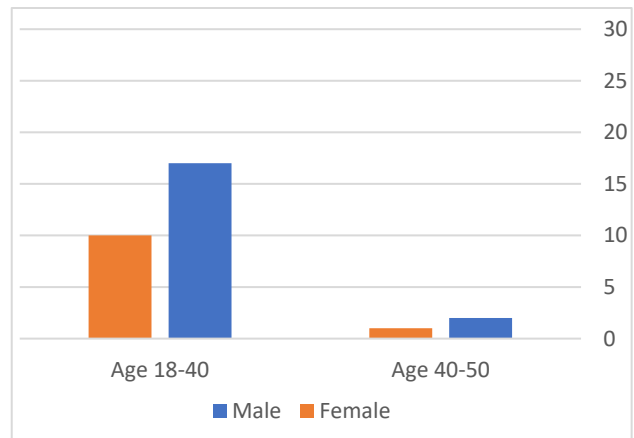


Figure 1: Age and gender distribution of the patients.

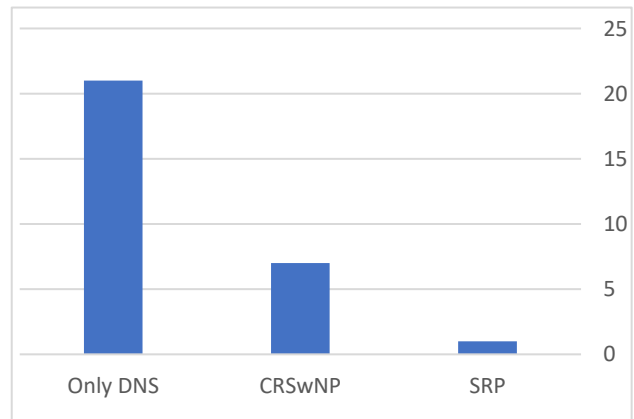


Figure 2: Distribution of patient's diagnosis.

DISCUSSION

In the past, the submucous resection was developed to remove deviated part of the septum has been practiced and popularized by Freer and Killian both.^{7,8} In 1963 Cottle introduced conventional septoplasty in which conservative technique has applied.^{9,10}

But the endoscopic septoplasty provides precise identification of the septal deviation, limited mucoperichondrial flap elevation and minimal cartilage resection.¹¹

Of the 30 patients in our sample, 19 were male and 11 were females. The most presented symptoms of our patients were nasal obstruction. The conventional septoplasty has poor visualization, it may cause mucosal trauma and bleeding resulting in residual deviation of the nasal septum especially in the posterior part of the septum. The endoscopic septoplasty has several advantages over the conventional septoplasty like it provides better visualization and less mucosal trauma especially for the posterior septal deviations.

Comparing the two techniques in the intra operative bleeding, the endoscopic technique has less mucosal bleeding

Limitations

Limitations of the study were based only in two centers and small numbers of cases.

CONCLUSION

The endoscopic septoplasty offers an alternative to conventional technique with superior visualization, excellent illumination. It is also an excellent tool for teaching. And also preferred for posterior deviation, whereas conventional septoplasty is still preferred for anterior deviation. Finally, all these operations depend on the expertise of the surgeon.

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Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee

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