

# Prevalence of deviated nasal septum at ENT inpatient department: a hospital based study

Sajeev Nilkanth Zambare<sup>1\*</sup>, Devidas Nathu Sarode<sup>2</sup>

<sup>1,2</sup>Associate Professor, Department of ENT, Dr Ulhas Patil Medical College and Hospital, Jalgaon, Maharashtra, INDIA.

Email: [drsanjeevz@gmail.com](mailto:drsanjeevz@gmail.com)

## Abstract

**Introduction:** Deviated nasal septum (DNS) is defined as deviation of the bony or cartilaginous septum to one or both sides. Septal deviation further complicates the growth theories of the septum, as the deviation suggests some sort of growth disjunction. Reduced ossification of the sphenoidal process of the septal cartilage lead to greater overall septal length and increased nasal septal deviation. Deviated Nasal Septum is one of the common findings seen in Otorhino-laryngology daily practice. Some degree of DNS is found in 58% in newborn babies and 4% of these is also associated with external Nasal deformity. **Aims and Objectives:** To study Prevalence of Deviated Nasal Septum at ENT Inpatient Department. **Methodology:** This was a Hospital Based, Cross-sectional study at Tertiary care hospital during the year Jan 2014 to Jan 2015, during one year period. All the patients admitted to ENT ward were screened for the Deviated Nasal Septum related problems, so these diagnosed patients later on Classified as Type I, II, III, IV, V. Total 510 in patients 103 were having DNS, found admitted to ward during this year. All of them were treated by Surgical Techniques. Outcome this surgery was measured. All the necessary data was collected using, pretested, semi-structured questionnaire. **Result:** In our study we have Out of the total 510 patients 103 were having DNS, so hospital prevalence was 20.47%. Majority of the patients from the 31-40 (25.24%); 41-50 (20.38%); 21-30 (17.47%); 51-60 (11.65%); 61-70 (7.76%); 11-20 (7.76%); <10 (5.82%); >70 (3.8%). Most common patients were of the Type I i.e. 36.89% followed by Type II 31.06%; Type III 14.56%; Type IV 10.67%; Type V 6.79%. Overall unsuccessful outcome after surgery was found to be 5.82% but majority of the Type V DNS were having Un-successful outcome i.e. (28.57%). **Conclusion:** Most common age of presenation of DNS was 31-40 in DNS Type Variety i.e. a straight tilted bony pyramid with a straight tilted cartilaginous vault in the opposite direction was more common and having good result after surgery.

**Keywords:** DNS (Deviated Nasal Septum), Classification of DNS.

## \*Address for Correspondence:

Dr. Devidas Nathu Sarode, Associate Professor, Department of ENT, Dr. Ulhas Patil Medical College & Hospital, N.H.No.6, Jalgaon-Bhusawal Road, Jalgaon, Khurd, Jalgaon-425309 Maharashtra, INDIA.

Email: [drsanjeevz@gmail.com](mailto:drsanjeevz@gmail.com)

Received Date: 10/06/2015 Revised Date: 12/07/2015 Accepted Date: 16/08/2015

## Access this article online

Quick Response Code:



Website:

[www.statperson.com](http://www.statperson.com)

DOI: 06 December  
2015

## INTRODUCTION

Deviated nasal septum (DNS) is defined as deviation of the bony or cartilaginous septum to one or both sides. Septal deviation further complicates the growth theories of the septum, as the deviation suggests some sort of growth disjunction<sup>1</sup>. Reduced ossification of the sphenoidal process of the septal cartilage lead to greater

overall septal length and increased nasal septal deviation<sup>2</sup>. Deviated Nasal Septum is one of the common findings seen in Otorhino-laryngology daily practice. Some degree of DNS is found in 58% in newborn babies and 4% of these is also associated with external Nasal deformity<sup>3</sup>. Adults with DNS can present with history of nasal obstruction, headache and recurrent nasal discharge<sup>4</sup>. Recent investigations of global populations have led to a more defined septal deviation nomenclature. Seven specific types of deviation have been recorded and defined<sup>5</sup>. Septal deviation incidence rates were found to be 89.2%, although the sample was taken from patients visiting an ENT office with nasal complaints. Unilateral vertical ridge located more deeply in the nasal cavity, opposite the head of the middle turbinate, was the most common septal deformity (20.4%). Males showed a higher incidence of three types of deviation. As patients age, certain types become more frequent, possibly due to growth of the splanchnocranial bones and final angulation

of the skull base. Left sided deformities were more common but not statistically significant<sup>5</sup>. Septal deviation can lead to numerous clinical implications in adults as it can lead to mouth breathing, crusting, epistaxis, sleep apnea, recurrent sinusitis due to mechanical obstruction of drainage, Eustachian tube disturbances and/or middle ear infections and ultimately deafness<sup>6</sup>. Dental malocclusions, palatal asymmetries, respiratory tract infections and ear disease requiring placement of ear tubes were found to be more common in patients with unilateral septal deviation<sup>7</sup>. Surgical management of the deviated nose is a challenging problem even for experienced rhinologic surgeons, and aesthetic and functional failures in correcting this problem are not uncommon.<sup>8</sup> The proper management of this condition requires a thorough preoperative or intra operative analysis of the shapes and relationships of the anatomical components of the nasal skeleton, and the surgical maneuvers should be executed in a precise manner.<sup>8</sup> The terms deviated nose, crooked nose, and scoliotic nose encompass a multiplicity of deformities that require specific maneuvers to be corrected precisely. <sup>9</sup> Thus, diagnosing and treating patients with a deviated nose would be greatly helped by a classification system that would enable individualization of the treatment plan according to the specific type of deviation. There are only a few reports of such classification systems<sup>10,11</sup>.

## AIMS AND OBJECTIVE

To study Prevalence of Deviated Nasal Septum at ENT In patient Department.

## MATERIAL AND METHODS

This was a Hospital Based, Cross-sectional study at Tertiary care hospital during the year Jan 2014 to Jan 2015, during one year period. All the patients admitted to ENT ward were screened for the Deviated Nasal Septum related problems, so these diagnosed patients later on Classified as I, a straight tilted bony pyramid with a straight tilted cartilaginous vault in the opposite direction; II, a straight tilted bony pyramid with a concavely or convexly bent cartilaginous vault; III, a straight bony pyramid parallel to the facial midline and a tilted cartilaginous vault; IV straight bony pyramid with tilted cartilaginous vault; and V, a straight tilted bony pyramid and a tilted cartilaginous dorsum in the same direction<sup>11</sup>. Total 510 in patients 103 were having DNS, found admitted to ward during this year. All of them were treated by Surgical Techniques<sup>11</sup>. Surgery was performed via an endonasal or external rhinoplasty approach. An endonasal approach is performed in selected cases of type I or II deviations with less severe deformities. If necessary, medial and lateral osteotomies are combined

via an endonasal route. However, in most patients, an open approach is preferred to provide better exposure of the nasal dorsum and improved maneuverability of the graft. And Outcome this surgery was measured. All the necessary data was collected using, pretested, semi-structured questionnaire.

## RESULTS

In our study we have Out of the total 510 patients 103 were having DNS, so hospital prevalence was 20.47%

**Table 1: Age wise Distribution of the DNS patients**

Age group	No. (%)	Percentage
<10	6	5.82%
11-20	8	7.76%
21-30	18	17.47%
31-40	26	25.24%
41-50	21	20.38%
51-60	12	11.65%
61-70	8	7.76%
> 70	4	3.8%
<b>Total</b>	<b>103</b>	<b>100%</b>

Majority of the patients from the 31-40 (25.24%); 41-50 (20.38%); 21-30 (17.47%); 51-60 (11.65%); 61-70 (7.76%); 11-20 (7.76%); <10 (5.82%); >70 (3.8%).

**Table 2: Sex Wise distribution of the ENT patients**

Sex	No (%)
Male	63 (61.96%)
Female	39 (38.03%)
<b>Total</b>	<b>103 (100%)</b>

Proportion of Male was more (61.96%) as compared to Females i.e. (38.03%)

**Table 3: Classification of DNS**

Classification Type of DNS	No. (%)	Percentage	Unsuccessful	
			Outcome No (%)	Percentage
Type I	38	36.89%	1	(2.6%)
Type II	32	14.56%	2	(6.25%)
Type III	15	14.56%	1	(6.67%)
Type IV	11	10.67%	2	(18.18%)
Type V	7	6.79%	2	(28.57%)
<b>Total</b>	<b>103</b>	<b>100%</b>	<b>6</b>	<b>(5.82%)</b>

Most common patients were of the Type I i.e. 36.89% followed by Type II 31.06%; Type III 14.56%; Type IV 10.67%; Type V 6.79%. Overall unsuccessful outcome after surgery was found to be 5.82% but majority of the Type V DNS were having Un-successful outcome i.e. (28.57%).

## DISCUSSION

The nasal septum plays an important role in both the appearance and function of the nose. With the recent widespread introduction of cone beam computed tomography (CBCT), otolaryngologists are better able to identify anatomical abnormalities and pathological states within the structures of the nasal cavity and the surrounding paranasal sinuses; Previously used radiographic techniques were frequently less effective at identifying irregularities in the sinuses<sup>13</sup>. In our study we have Out of the total 510 patients 103 were having DNS, so hospital prevalence was 20.47% Majority of the patients from the 31-40 (25.24%); 41-50 (20.38%); 21-30 (17.47%); 51-60 (11.65%); 61-70 (7.76%); 11-20 (7.76%); <10 (5.82%); > 70 (3.8%). Most common patients were of the Type I i.e. 36.89% followed by Type II 31.06%; Type III 14.56%; Type IV 10.67%; Type V 6.79%. Overall unsuccessful outcome after surgery was found to be 5.82% but majority of the Type V DNS were having Un-successful outcome i.e. (28.57%). Type DNS are more difficult to manage and un-successful outcomes are more common So these cases meticulously managed. These findings are confirmative with Yong Ju Jang *et al* 12 and Al-Shehri A, Banaz F14.

## REFERENCES

1. Gray LP. Deviated nasal septum: incidence and etiology. *Ann OtoRhinoLaryngolSuppl.* 1978; 87(3, Suppl 50): 3 – 20.
2. Kim J, Kim SW, Kim SW, Cho JH, Park YJ. Role of the Sphenoidal Process of the Septal Cartilage in the Development of Septal Deviation. *Otolaryngol Head Neck Surg.* 2012; 146: 151 - 5.
3. Gray L. Septal manipulation in the neonate; method and results. In *t J PaediatrOtolaryngol.* 1985; 8:195 – 209.
4. Mohebbi A, Ahmadi A, Etemadi M, Safdarian M, Ghourchian S. An epidemiologic study of factors associated with nasal septum deviation by computed tomography scan: a cross sectional study. *BMC Ear Nose Throat Dis.* 2012; 12:15.
5. Mladina R, Cuić, Subarić M, Vuković K. Nasal septal deformities in ear, nose, and throat patients: an international study. *Am J Otolaryngol.* 2008; 29: 75 - 82.
6. Sooknundun M, Kacker SK, Bhatia R, and Deka RC. Nasal septal deviation: effective intervention and long term follow-up.” *Int J PediatrOtorhinolaryngol.* 1986; 12: 65 - 72.
7. Gray LP. The development and significance of septal and dental deformity from birth to eight years.” *Int J PediatrOtorhinolaryngol.* 1983; 6: 265 - 77.
8. Bocchieri APascali M Septal crossbar graft for the correction of the crooked nose. *PlastReconstrSurg* 2003; 111 (2) 629- 638
9. Patterson CN Surgery of the crooked nose. *Laryngoscope* 1981; 91 (6) 939- 94.
10. Ellis DA Gilbert RW Analysis and correction of the crooked nose. *J Otolaryngol* 1991; 20 (1) 14- 18.
11. Rohrich RJGunter JPDeuber MAAdams WP Jr The deviated nose: optimizing results using a simplified classification and algorithmic approach. *PlastReconstrSurg* 2002; 110 (6) 1509- 152.
12. Yong Ju Jang, Jong Hwan Wang, Bong-Jae Lee. Classification of the Deviated Nose and Its Treatment. *Arch Otolaryngol Head Neck Surg.* 2008; 134(3):311 315.doi:10.1001/archoto.2007.46
13. Bolger WE, Butzin CA, Parsons DS. Paranasal sinus bony anatomic variations and mucosal abnormalities: CT analysis for endoscopic sinus surgery. *Laryngoscope.* 1991; 101: 56–64.
14. Al-Shehri A, Banaz F, Alandejani T. Prevalence of Deviated Nasal Septum Among Adults In Jeddah, Saudi Arabia: Age And Gender Difference. *Diagnostic and Therapeutic Study* 2014; 3(2):20-30.

Source of Support: None Declared  
Conflict of Interest: None Declared