INITIAL EVALUATION OUTCOMES OF SEPTOPLASTY ENDOSCOPIC SURGERY AT 103 MILITARY HOSPITAL

Vu Van Minh[1], Tran Ngoc Hieu[1], Do Lan Huong[1]

1. 103 Military Hospital

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SUMMARY

Objective: Describe the clinical characteristics of septum deformity and evaluate the outcomes of septoplasty endoscopic surgery. **Method**: Prospective descriptive study, with intervention for each case, before and after comparison. **Results**: Age from 18 to under 40 was 56.67%, male 63.33%; unilateral nasal obstruction was 56.67%, bilateral ones 43.33%; nasal discharge 73.33%; headache 86.67%; unilateral nasal stenosis was 56.67%, bilateral nasal stenosis was 43.33%; Increased mucosal secretion 73.33%; Cottle area 1,2,3 deformity were 30%, area 4,5 were 70%. **Conclusion**: Septoplasty endoscopic surgery after 03 months helps to significantly improve the condition of the nasal mucosa. The rate of nasal mucosa returning to normal increased from 26.67 to 76.67%; The rate of mucosa with increased mucus secretion decreased from 93.33% to 13.33%.

Keywords: Septal deformity, septoplasty endoscopic surgery

INTRODUCTION

The nasal septum plays an important role in air circulation, mucus transport and aesthetics. Septal deformity is an anatomical change in nasal septum, manifested by deviation, crest, spine, septal foot thickening, depending on the location of septal deformity, there are different impacts on the function of the nasal sinuses. The level of influence of the deformity depends on the impact on air circulation through the nose and fluid transport on the sinus septum. According to Stammberger and some authors, nasal cavity deformity is one of the causes of sinusitis, surgical treatment of septal deformity can resolve the symptoms of chronic sinusitis. Therefore, we conducted this study with the following objectives: 1. Describe the clinical characteristics of chronic rhinosinusitis with septal deformity. 2. Evaluate the results of septoplasy endoscopic surgery.

* First author: Vu Van Minh Phone number: 0982195123 Email: vuvanminhb6@gmail.com

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PATIENTS AND METHODS

1. Patients

Studied on 30 patients who underwent septoplasty endoscopic surgery at 103 Military Hospital from September 2023 to July 2025.

* Selection criteria

- Over age of 18 years and underwent septoplasty endoscopic surgery.

- Patients who agreed to participate in the study and had complete research records.

* Exclusion criteria: Patients who underwent septoplasty endoscopic surgery and edoscopic sinus surgery.

2. Research methods.

- Prospective study describing intervention in each case, before and after comparison:

Clinical examination, nasal endoscopy, CT scan, definitive diagnosis of nasal septum deformity causing sinusitis and septoplasty endoscopic surgery treatment (indicated according to the instructions of the Ministry of Health), check-up after 03 months.

- Convenient sample selection.

- Research location: Department of Otorhinolaryngology, 103 Military Hospital.

3. Ethical Statement

The study was conducted in accordance with the Declaration of Helsinki, and approved by the Ethics Committee of 103 Military Hospital of Vietnam Military Medical University (Number 1459/QĐ-BVQY103 date 10th June, 2025). The study data were approved for use and publication by Military Hospital 103. The authors declare that they have no conflicts of interest related to this research.

RESULTS

Table 1. Age and sex (n=30)

Gen der / Age	Male	Female	Rate (%)
18- ≤ 40	11	6	56.57
41 - 60	6	4	33.33
> 60	2	1	10.00
Total (n, %)	19 (63.33%)	11(36.67)	100.00

- The proportion of patients aged 18 to ≤40 years was the highest, accounting for 56.67%. Patients over 60 years old had the lowest proportion (10%).

- Male patients accounted for 63.33%, while female patients accounted for 36.67%.

Table 2. Signs (n=30)

Signs	n	%
Bilaterial nasal congestion	13	43.33
Uniterial nasal congestion	17	56.67
Nasal discharge	28	93.33
Loss of smell	4	13.33
Sneeze	14	46.67
Headache	26	86.67

Patients presented with unilateral nasal obstruction in 56.67% of cases and bilateral obstruction in 43.33%. Nasal mucous discharge was reported in 93.33%,

headache in 86.67%, sneezing in 46.67%, and hyposmia in 13.33%

Table 3. Endoscopic symptomes (n=30)

Characteristics		n	%
Nasal airway	Uniterial narrow	17	56.67
	Bilaterial narrow	13	43.33
Mucosa	Normal	8	26.67
	Pale	2	6.67
	Edematous	5	16.67
	Excessive mucous discharge	22	73.33

Among the patients, unilateral narrowing of the nasal airway was observed in 56.67%, while bilateral narrowing was seen in 43.33%. Regarding nasal mucosa, increased mucous secretion was noted in 73.33%, normal mucosa in 26.67%, edematous mucosa in 6.67%, and pale mucosa in 6.67%

Table 4. Cottle classification of septal deformity (n=30)

Deformity		n	%
Cottle area 1-2-3	Deviation	3	10.00
	Spur	1	3.33
	Crest	1	3.33
	Thickened septal base	4	13.33
	Total	9	30.00
Cottle area 4-5	Deviation	5	16.67
	Spur	7	23.33
	Crest	8	26.67
	Thickened septal base	1	3.33

Septal deformities in Cottle's areas I–III were observed in 30% of patients, of which thickened septal base accounted for 13.33%. Deformities in Cottle's areas IV–V were found in 70%, with septal crest observed in 26.67%

Table 5. Post-surgery 3 months outcomes (n=30)

Manifestations	Pre-surgery		Post-surgery 3 months	
	n	%	n	%
Nasal congestion	30	100	7	23.33
Headache	26	86.67	7	23.33
Normal mucosa	8	26.67	23	76.67
Edematous mucosa	5	16.67	2	6.67
Pale mucosa	2	6.67	1	3.33
Excessive mucous discharge	22	73.33	4	13.33

At 3 months after endoscopic septoplasty, 23.33% of patients still reported nasal obstruction and headache. The proportion of patients with normal nasal mucosa increased from 26.67% to 76.67%, while mucous secretion decreased from 73.33% to 13.33%

IV. DISCUSSION

The research results (Table 1) show that: The proportion of patients aged from 18 to 40 was the highest, accounting for 56.67%. Patients aged >60 had the lowest proportion (10.00%). The aerage age was 38.76 ± 13.22 with the youngest age being 18 and the oldest age being 67. Our research results were also similar to the study of Dang Thanh et al. [5] when recording the highest proportion of patients under 40 years old. The patients were male, accounted for 63.33%, and female was 37.67%. This research result was also

similar to the study of Dang Thanh et al. [5] which also recorded a high proportion of males at 70.2% and females at 29.8%; the male/female ratio equal 2.3/1. This was consistent with many domestic and foreign studies, when nasal septum deformities are often detected and treated at working age - the time when patients have a higher need to improve respiratory function and aesthetics. In the elderly, the rate of surgical intervention is lower due to the possibility of many internal medical conditions or having adapted to a state of prolonged nasal congestion.

The results (Table 2) showed that 100% of patients had nasal congestion, of which 56.67% had unilateral congestion, 43.33% had bilateral congestion, 73.33% had runny nose, and 86.67% had headache. This was also one of the three reasons for hospitalization. In addition, 46.67% of patients had sneezing and 13.33% had decreased sense of smell. This result was similar to the results of Nguyen Ngoc Quang et al. [4], the most common functional symptoms of patients in the study group were nasal congestion at 100% in both groups, followed by runny nose at 90%, sneezing at 58.3%, and decreased sense of smell at 8.3%. The results (Table 3) of endoscopic symptoms showed that: Patients with unilateral narrowing of the airway accounted for 56.67%, bilateral narrowing was 43.33% corresponding to unilateral or bilateral septal deformity. Patients with increased mucosal secretion accounted for 93.33%, this is also one of the symptoms to diagnose chronic rhinosinusitis, on the other hand, septal deformity obstructs blood circulation and stimulates increased secretion [1]. The rate of patients with normal, pale, edematous mucosa accounted for a low rate, therefore, sinus lesions were mild on computed tomography, so sinus surgery was not indicated. Our results were different from the results of Nguyen Ngoc Quang et al., in the study, symptoms of mucosal edema were 31.5%, nasal cavity fluid accumulation accounted for 59.2% [4] because we only took patients who had endoscopic orthopedic surgery in Vietnam but not sinus surgery. Results (Table 4), Most patients have septal deformities in the Cottle 4,5 region, accounting for 70%. The rate of patients with VN order and VN thick base accounts for a high percentage in regions 1,2,3, this was the valve region and the nasal vestibule region that is easily damaged by trauma and congenital. Nasal septum deformities in the Cottle 4-5 region were mainly crest (26.67%), spine (23.33%), deviation (16.67%), this is the middle turbinate region and sphenoethmoidal recess, this region often causes blockage of the foramen-clivus complex, causing sinusitis and headache, decreased smell [1]. This result was also similar to the study of Vu Minh Ngoc et al., dividing septal deformities according to Cottle: Cottle region 1-2-3: 18.3%, of which crooked 8.3%, crest 8.3%, spine 1.7%; Cottle 4-5 area: 81.7% of which crooked 23.3%, crest 36.7%, spine 10%, thickened septum 10%, combined 1.7% [3].

The results (table 5) showed that septoplasty endoscopic surgery has reduced the symptoms of chronic rhinosinusitis,

which is consistent with the pathogenesis of rhinosinusitis when septal deformity is the cause of nasal congestion, runny nose, headache, after surgery, the patient's symptoms are gone or reduced, in addition, if septal deformity is not the cause, it is also a factor that aggravates rhinosinusitis [1], [6]. After treatment, the symptoms of patients were all reduced or gone, nasal congestion and headache are 23.33%, increased mucus secretion was reduced from 73.33% to 13.33%, mainly thin mucus discharge, normal nasal mucosa is increased from 26.27% to 76.67%. These symptoms would continue to be monitored and treated. This result is similar to the study of Dang Thanh et al. 3 months after surgery, the functional sympvtoms were significantly reduced in patients with runny nose from 90% to 27.5%, 80% of patients had reduced or no nasal congestion [5].

The initial results of the study showed that endoscopic septoplasty is a safe and effective method, significantly improving symptoms of nasal congestion, headache and mucosal inflammation. The surgery also helps restore the physiological function of the sinuses, bringing high satisfaction to patients. However, a small proportion (23.33%) of patients still have mild congestion after surgery, possibly due to the existence of associated factors such as chronic rhinosinusitis, allergic rhinitis or deformity of the external nasal cartilage.

Our study was only at the initial evaluation stage after 3 months, so it did not fully reflect the long-term results. In the future, long-term follow-up (≥6–12 months) is needed to evaluate the stability of the septum, the degree of nasal congestion recurrence, as well as the impact on quality of life. In addition, it is possible to combine objective assessment by measuring rhinomanometry or CT-scan of the sinuses to increase the reliability of the results.

CONCLUSION

Through the study of 30 patients treated with endoscopic septoplasty, we concluded the following:

1. Clinical characteristics: Age from 18 to under 40 years old, the rate is 56.67%; male 63.33%. Symptoms of nasal congestion on both sides: 56.67%, nasal congestion on one side: 43.33%, nasal congestion over 5 years: 60.0%, nasal mucus discharge: 73.33%, headache: 86.67%, sneezing: 46.67%, decreased sense of smell: 13.33%. The deformity of the septum in the Cottle 1,2,3 area is 30%, the Cottle 4,5 area is 70%. The narrowing of the airway on one side is 56.67%, the narrowing of both sides is 43.33%. The nasal mucosa secretes 73.33%.

2. The results of endoscopic surgery to correct the nasal septum after 03 months significantly improved the symptoms: nasal congestion and headache decreased, normal nasal mucosa increased from 26.67% to 76.67%, increased mucus secretion decreased from 73.33 to 13.33%.

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