

Introduction

- Inferior turbinate hypertrophy is commonly found in patients with nasal obstruction and can be managed with antihistamine or nasal decongestant
- If hypertrophied inferior turbinates are refractory to medical therapy, patients can undergo a turbinate reduction to improve nasal obstruction [2,3]
- Techniques for turbinate reduction include: submucous resection, partial excision, total turbinectomy, microdebrider removal, electrocautery, laser cautery, cryotherapy, and radiofrequency ablation [4]
- Turbinate reduction surgery rarely may lead to adverse post-operative outcomes [4-6] such as epistaxis and nasal congestion

Objective:

- To determine the impact of inferior turbinate reduction technique on post-operative epistaxis and recurrent or persistent nasal congestion

Methods

Study Design and Patient Selection

- Retrospective review
- 308 patients who underwent rhinoplasty with inferior turbinate reduction at a single academic institution
- Patients underwent inferior turbinate reduction via:
 1. Partial excision with a thru-cut
 2. Submucous resection with an ultrasonic bone aspirator

Outcome Measures

- Postoperative epistaxis, defined as:
 - Notable postoperative bleeding from the nasal cavity either reported by the patient or treated by a clinician
- Postoperative recurrent or persistent nasal congestion, defined as:
 - Excessive nasal congestion lasting longer than expected for the postoperative course as determined by the surgeon

Results

- Patients who underwent inferior turbinate reduction:
 - Partial excision: 195 (63.3%)
 - Submucous resection: 113 (36.7%)

Table 1: Cohort Characteristics

	Partial Excision	Submucous Resection
Gender: Female	112 (57.4%)	67 (59.3%)
Average Age	33.6±13.4	33.4±14.2
Average BMI	24.7±5.0	24.4±4.9
Smoking Status:		
Never	144 (73.8%)	80 (70.8%)
Former	29 (14.9%)	22 (19.5%)
Current	22 (11.3%)	11 (9.7%)
History of Previous Nasal Surgery	40 (20.5%)	23 (20.4%)
History of Nasal Trauma	111 (56.9%)	62 (54.9%)
Rhinoplasty Indication:		
Functional	142 (72.8%)	61 (54.0%)
Cosmetic	11 (5.64%)	22 (19.5%)
Both	42 (21.5%)	30 (26.5%)
Concurrent Septoplasty	150 (76.9%)	95 (84.1%)

Epistaxis:

- Partial excision: 4.6% experienced postoperative epistaxis
- Submucous resection: 1.8% experienced postoperative epistaxis
- Never smokers experienced significantly less episodes of epistaxis as compared to current smokers (9=0.017)
- All other predictors were not significant

Nasal Congestion:

- Partial excision: 17.4% experienced postoperative congestion
- Submucous resection: 16.8% experienced postoperative congestion
- All other predictors were not significant

Discussion

- Regardless of technique, never-smokers have a lower probability of epistaxis compared to current smokers
- Post-operative epistaxis and recurrent or persistent nasal congestion were not associated with either technique of inferior turbinate reduction

Limitations:

- Single-center study
- Retrospective data collection
- Subjectivity of perceived nasal congestion
- Confounding factors from concurrent procedures

Future Directions:

- Prospective study
- Rhinomanometry
- Additional outcome measures

Conclusion

- The goal of this study was to evaluate potential postoperative complications after two techniques of inferior turbinate reduction
- These findings demonstrate a high safety profile of these surgical approaches and utility in relief of nasal congestion when identified as a significant contributor to nasal obstruction
- Never-smokers had a decreased rate of epistaxis overall, however there was no statistical difference when comparing epistaxis after partial excision vs. submucous resection techniques
- Recurrent or persistent nasal congestion was not associated with either technique of inferior turbinate reduction

References

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