developed headache postoperatively that disappeared after removing the pack from the nasal cavity. Improvement of nasal discharge, facial pain, sneezing and hyposmia were significantly good from second week to the ends of twelfth months after operation.

Table 7. Preoperative and postoperative measurement of airflow (cm^3/s)

Air flow	Preoperative	Postoperative
Mean	266	730
Median	248	686

P = < 0.001 (Wilcoxon test)

Van Delden *et al* [5] after performing microdebrider assisted turbinoplasty for 100 patients during 1994-1997 found postoperative improvement in nasal patency occurred in 93% of patient. Friedman *et al* [6] at 1999, studied 112 patient who underwent bilateral microdebrider–assisted turbinoplasty and suggested that microdebrider usage in turbinoplasty is a safe method for achieving turbinate size reduction with acceptable morbidity in patient with nasal obstruction and bleeding is a rare complication; while preservation of mucosa leads to early healing and absence of crusting and bone exposure. The microdebrider technique lends itself to precise tissue removal with satisfactory reduction of tissue, but also 5% developed synechia.

Lee *et al* [7] at 2004 during a study of 29 patients with microdebrider –assisted turbinoplasty found that the nasal obstruction improvement was 91%. Joniau *et al* [8] at 2006 performed their study on 19 patients. They did powered turbinoplasty on one side and sub mucosal diathermy on other side, and they found that powered turbinoplasty (microdebrider) was superior to sub mucosal diathermy. Hegazi *et al* [9] at 2007 observed that 10% of the patients developed mild crustation after microdebrider turbinoplasty and saw complete resolution of nasal obstruction in 80% of patients and mild nasal obstruction in 20% of patients two months after Microdebrider-Assisted turbinoplasty. Chen *et al* [10] at 2007, during a study of 120 patients with chronic nasal obstruction, had divided them into 2 groups, one treated with microdebrider – assisted turbinoplasty and the other with sub mucosal resection. They had found that they are equally effective (both subjectively and objectively) in determining nasal obstruction in patients with hypertrophic inferior turbinate; however, microdebrider –assisted turbinoplasty was superior to sub mucosal resection due to more significant preservation of nasal mucosa resulting from definitive, controlled volume reduction of inferior turbinate sub mucosa.

Liu *et al* [11] at 2009 noted that microdebrider turbinoplasty and related symptom such as nasal obstruction, sneezing, rhinorhea and snoring significantly decreased from 6 months to 3 years after surgery, and also observed crustation and adhesion in 7 patients of 60 patients. Cingi *et al* [12] at 2009 found that the nasal obstruction significantly improved after microdebrider – assisted turbinoplasty on seventh day and persist after 3 months from surgery. Finally, Bahandarkar *et al* [13] at 2010 found that microdebrider-assisted turbinoplasty is a trend toward procedures that are mucosal sparing and may offer better long term outcome than radiofrequency ablation.

In conclusion, microdebrider - assisted turbinoplasty is a safe method for achieving turbinate size reduction with acceptable morbidity in patients with nasal airway obstruction secondary to turbinate hypertrophy; with bleeding as a minimal complication. Preservation of mucosa leads to early healing and absence of crusting.

References

1. Luczaj J. Submucosal bipolar radiofrequency therapy for treatment of inferior turbinate hypertrophy. Otolaryngol Polska. 2007; 61(3): 290-4.
2. Cumming CW, Paul W, Lee A, et al. Cummings Otolaryngology Head and Neck Surgery. 4th ed. Mosby; 2005. p. 1008-9.
3. Richarson J. Turbinate treatment in vasomotor Rhinitis. Laryngoscope. 1985; 58: 834-47.
4. Hol MK, Huizing EH. Treatment of inferior turbinate pathology: a review and critical evaluation of different techniques. Rhinology. 2000; 38: 157-66.