VIDEOENDOSCOPIC EVALUATION OF THE EFFICACY OF RHINOPLASTY TO THE INTERNAL NASAL VALVE ANGLE AND TO NASAL VALVE AREAS

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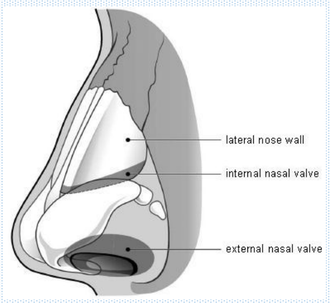
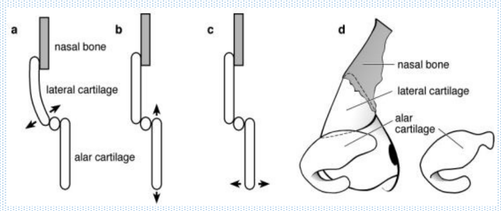
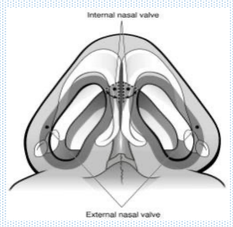
Introduction

Rhinoplasty is an aesthetic and functional surgery that reshapes the nose and improves breathing. The nasal valve area is the place which has the maximum flow resistance in the nose. The borders of the internal nasal valve area are the lower end of the upper lateral cartilage, the pyriform aperture, nasal septum and anterior end of the inferior turbinate. External nasal valve is the area which is in the entrance of the nostrils. The aim of this study is to compare the changes in internal and external nasal valve area and internal nasal valve angles with videoendoscopic images of patients in a standardized position by using a rigid endoscope which is taken before the surgery that made with current rhinoplasty techniques and at least 3 months after from surgery afterwards.

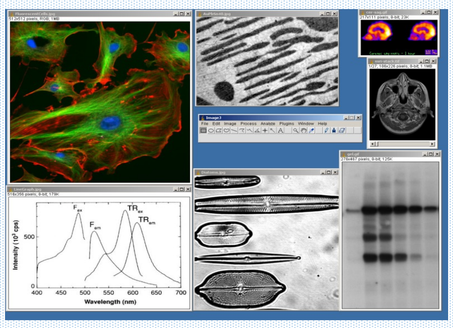




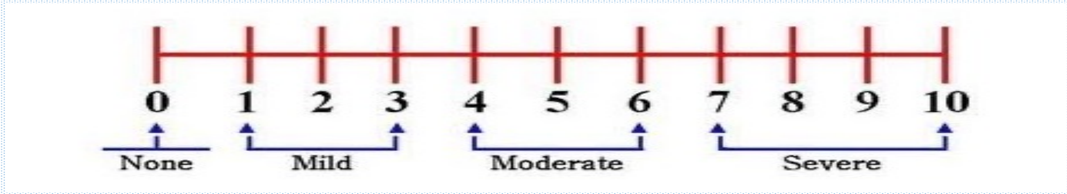


Methods

The changes in the cross sections of the valve regions of the 30 volunteer patients who will undergo primary rhinoplasty were analyzed utilizing ImageJ program. The effects of the current rhinoplasty techniques on the internal nasal valve angles and to the dimensions of the nasal valve areas and VAS values were examined.

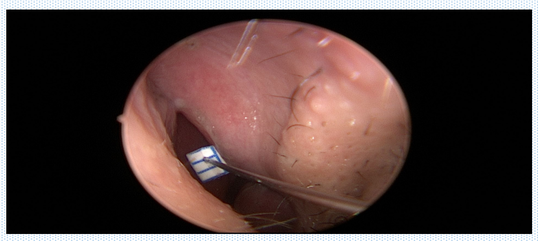


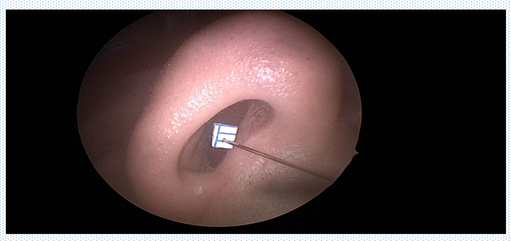
Şekil 12: Rijit Endoskop Şekil 13 : Flekxibl video-endoskop



Results

Eleven patients, who was able to return for postoperative follow-up, evaluated to compare the sections of the valve region before and after nasal surgery. Assessments show that while rhinoplasty make smaller utilizing current surgical techniques, dimensions of the both valves are enchanced and results with better breathing.





INV ANGLE	INV AREA	ENV AREA
24,933	53,549	58,063

Conclusion

The results that obtained from 11 patients show that current rhinoplasty techniques are effective for improving the nasal valve areas and angles for a better breathing. Patients reported that their breathing problems resolved and improved 2 points according to VAS analysis.

Patient Name-Surname		Preop							Total			Postop							Total		
		Right			Left							Right			Left						
		INV Area	INV Angle	ENV Area	INV Area	INV Angle	ENV Area		*INV*	*ENV*		INV Area	INV Angle	ENV Area	INV Area	INV Angle	ENV Area		*INV*	*ENV*	
A. S.		84,744m m2	32,593°	159,243 mm2	80,521m m2	22,885°	95,906m m2		165,265 mm2	255,149 mm2		22,182m m2	18,726°	61,920m m2	68,189m m2	38,599°	72,116m m2		90,371m m2	134,036 mm2	A. S.
E. D.		134,648 mm2	45,699°	161,721 mm2	72,258m m2	65,414°	188,231 mm2		206,906 mm2	349,952 mm2		38,709m m2	30,523°	106,069 mm2	17,914m m2	31,428°	77,488m m2		56,623m m2	183,557 mm2	E. D.
S. D.		111,012 mm2	19,395°	95,039m m2	107,582 mm2	30,466°	114,809 mm2		218,594 mm2	209,848 mm2		32,358m m2	20,473°	74,757m m2	31,1mm 2	15,523°	98,946m m2		63,458m m2	173,703 mm2	S. D.
Z. B. A.		92,827m m2	24,410°	73,564m m2	155,930 mm2	24,881°	59,496m m2		248,757 mm2	133,06m m2		42,488m m2	47,104°	78,134m m2	58,546m m2	26,296°	68,267m m2		101,034 mm2	146,401 mm2	Z. B. A.
C. D.		38,505m m2	21,208°	64,207m m2	48,973m m2	19,574°	96,590m m2		87,478m m2	160,797 mm2		18,793m m2	23,859°	33,822m m2	45,798m m2	33,196°	58,929m m2		64,591m m2	92,751m m2	C. D.
A. B. G.		34,032m m2	15,816°	47,952m m2	149,724 mm2	44,171°	63,194m m2		183,756 mm2	111,146 mm2		17,950m m2	33,796°	40,890m m2	26,825m m2	36,870°	44,626m m2		44,775m m2	85,516m m2	A. B. G.
G. E.		88,939m m2	32,002°	89,294m m2	71,394m m2	47,420°	87,445m m2		160,333 mm2	176,739 mm2		22,632m m2	27,910°	50,792m m2	28,035m m2	30,859°	38,493m m2		50,667m m2	89,285m m2	G. E.
Y. Y.		84,427m m2	24,020°	50,828m m2	41,079m m2	32,515°	59,949m m2		125,506 mm2	110,777 mm2		59,495m m2	50,429°	55,819m m2	66,889m m2	31,321°	88,070m m2		126,384 mm2	143,889 mm2	Y. Y.
E. A.		38,119m m2	26,986°	35,135m m2	24,218m m2	20,579°	66,319m m2		62,337m m2	101,454 mm2		42,214m m2	37,996°	40,135m m2	28,087m m2	25,480°	48,980m m2		70,301m m2	89,115m m2	E. A.
A. K.		56,825m m2	24,905°	77,288m m2	53,549m m2	24,933°	97,202m m2		110,374 mm2	174,49m m2		28,741m m2	36,531°	83,695m m2	51,718m m2	36,373°	63,363m m2		80,459m m2	147,058 mm2	A. K.
B. Ş.		29,777m m2	17,050°	51,009m m2	52,197m m2	27,321°	49,276m m2		81,974m m2	100,285 mm2		54,981m m2	45,197°	57,381m m2	21,772m m2	29,113°	55,351m m2		76,753m m2	112,732 mm2	B. Ş.

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