

VOICE OUTCOME OF VOCAL CORD AUGMENTATION WITH HYALURONIC ACID IN PATIENTS WITH GLOTTAL INSUFFICIENCY

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INTRODUCTION

Glottal insufficiency is a relatively common finding at voice clinics. It is characterized by incomplete closure of the vocal cords when phonating, which causes inappropriate leakage of air through the glottis on attempting to phonate and there is an increased risk of aspiration. Glottal insufficiency is one of the most common contributing factors in patients presented with dysphonia. Unilateral vocal cord paralysis is the most common cause of incomplete glottal closure. Injection laryngoplasty (IL) or vocal cord augmentation involves injection of various materials into the lateral aspect of the vocal cord. In this study we are using hyaluronic acid in injecting vocal cord under general anesthesia.

AIM OF THE WORK

This study aims to show the voice outcomes of vocal cord augmentation with hyaluronic acid under general anaesthesia in patients with glottal insufficiency.

PATIENTS AND METHODS

The study will be carried on twenty patients having glottal insufficiency attending the outpatient clinic, at Otorhinolaryngology Department, Alexandria Main University Hospital, Alexandria, Egypt. Every patient was subjected to acoustic analysis of voice preoperatively and followed up at 2 weeks, 1 month & 6 months postoperative.

RESULTS

Table (1): Relation between pre injection glottal gap and amount of HA injected

Amount of HA injected (ml)	Glottal gap (pre)			H	p
	1mm (n= 4)	2mm (n= 12)	3mm (n= 3)		
Min. – Max.	0.30 – 0.50	0.60 – 1.0	1.20 – 1.40		
Mean ± SD.	0.43 ± 0.10	0.79 ± 0.14	1.30 ± 0.10	13.404*	0.001*
Median	0.45	0.80	1.30		

Table (2): Comparison between the different studied periods according to Jitter (%) (n= 19)

Jitter (%)	Pre injection	Post injection			Fr	p
		2 weeks	1 month	6 months		
Min. – Max.	2.59 – 4.56	1.12 – 3.58	1.21 – 3.78	1.22 – 3.99		
Mean ± SD.	3.43 ± 0.73	1.87 ± 0.67	1.97 ± 0.70	2.18 ± 0.73	49.381*	<0.001*
Median (IQR)	3.28 (2.73 – 4.16)	1.72 (1.37 – 2.13)	1.69 (1.42 – 2.28)	2.12 (1.69 – 2.56)		
P ₁		<0.001*	<0.001*	0.014*		
Sig. bet. periods		p ₂ =0.068, p ₃ <0.001*, p ₄ =0.020*				



Figure (1)
Direct laryngoscopy view of a case of glottal insufficiency (left VC bowing) (Pre injection)

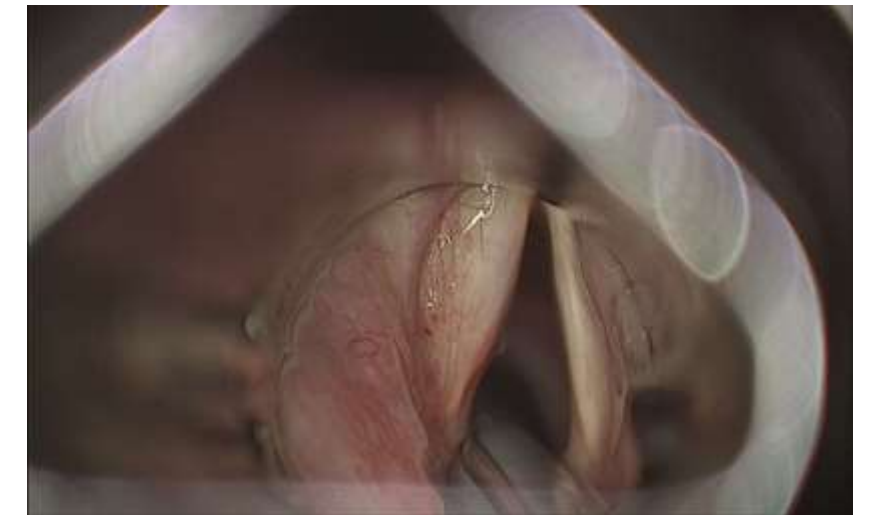


Figure (2)
Direct laryngoscopy view of the same case (after injection of 1.3 ml hyaluronic acid in left vocal cord)

CONCLUSION

There was satisfactory improvement in all parameters of acoustic analysis that was confirmed by statistically significant difference between pre-injection with hyaluronic acid under general anesthesia and all post-injection results. This improvement continued throughout the follow-up period as comparison between post-injection results which revealed significant difference.