INTRODUCTION

Unilateral vocal fold paralysis causes dysphonia due to poor closure of glottis. Approximation is possible in swallowing. It is especially frequent in patients with paralysis or a little deviation. Sometimes, even with the body's intrinsic mechanisms for compensation, surgery is necessary to correct glottic insufficiency and repair closure of vocal folds.

The most widespread technique of laryngeal framework surgery is Type I thyroplasty, started by Isshiki.

Silastic is a polymer of silicone (polydimethylxylothene) where as Gore-Tex® implant in 10 cases. All cases were subjected to pre-operative assessment using short-time laryngeal voice assessment objectively, using the computerized VAGHMI Diagnostic Module and subjetively using the audio recorder.

The parameters studied using VAGHMI Diagnostic Module included:

- Mean Fundamental frequency (FO): The normal mean values for males and females are 129.8 and 238.5 respectively.
- Intensity (dB): The normal mean values for males and females are 3.0 and 7.1 respectively.
- Shimmer (dB): The normal mean values for males and females are 0.51 and 0.29 respectively.
- Harmonics to Noise Ratio: The normal mean values for males and females are 19.35 and 28.12 respectively.
- Number of visible harmonics: The normal mean values for males and females are 19.35 and 28.12 respectively.

METHODS AND MATERIALS

METHODS: A prospective study was conducted on 20 patients with unilateral vocal cord paralysis who presented to our tertiary care referral center between August 2003 and October 2008. The diagnosis was confirmed by taking detailed history, through clinical examination and videostroboscopy.

All cases were subjected to pre-operative and post-operative voice assessment objectively using the computerized VAGHMI diagnostic module and subjetively using the audio recorder. A minimum period of 6 months was given between the creation of vocal cord paralyses and Medialization thyroplasty to allow for compensation by opposite vocal cord.

Results: Pre-operative and post-operative results were compared and analyzed using Wilcoxon Signed rank test.

RESULTS

In our study, there were 10 cases each in 21-40 years and 41-60 years age groups. All of the 12 patients were male and 8 were female. All cases had hoarseness, as their presenting complaint.

The most common cause for unilateral vocal cord paralysis was idiopathic in 14 cases and post thyroid surgery in 6 cases. Left vocal cord paralysis was seen in 11 patients and right vocal cord paralysis was seen in 9 patients.

Mann-Whitney U test was used to compare Silastic and Gore-Tex® groups. Statistically significant global difference was achieved in the post operative period in the Gore-Tex® group (p<0.01).

On statistical analysis, p values were insignificant for mean fundamental frequency (FO), intensity (I), and jitter and shimmer, whereas, Harmonics to Noise ratio (H:N), number of visible harmonics (No.VH), pitch and maximum phonation duration (MPD) were significantly improved in Gore-Tex® group post-operatively on 6 month follow up.

Bar diagrams 1 & 2 shown below depict the p value of each parameter assessed and compared in our study.

CONCLUSIONS

In our study group of 20 patients, 50% of the patients were in the 41 to 60 years age group with the mean age being 43.35 years. It is similar to the findings of M. Antar et al (1996) where it was noted that range from 18 to 40 yrs. The relative highest incidence of patients in the 41 to 60 yrs age group is due to the increasing trend of elderly people seeking medical and hospital services requiring surgery in this group.

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The parameters studied using VAGHMI Diagnostic Module included:

- Mean Fundamental frequency (FO): The normal mean values for males and females are 128.8 and 235.6 respectively.
- Intensity (I): The normal mean values for males and females are 107.4 and 121.3 respectively.
- Shimmer (I): The normal mean values for males and females are 3.0 and 7.1 respectively.
- Harmonics to Noise Ratio: The normal mean values for males and females are 0.51 and 0.29 respectively.
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