PREVALENCE OF VOCAL CORD NODULES AMONG TEACHING PROFESSIONALS WITH HOARSENESS OF VOICE: A CROSS SECTIONAL STUDY
Arti Pandey¹, Ankit Thakral²

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ABSTRACT: BACKGROUND: Hoarseness of voice is used to describe the change in voice quality. Hoarseness of voice due to vocal lesions has profound impact on the emotional and occupational aspects of life. Various neoplastic and non-neoplastic causes have been reported as causes of hoarseness of voice. We evaluated the prevalence of various benign lesions in vocal cords causing hoarseness in patients attending to tertiary care hospital. METHODS: This study was conducted at CIMS Chhattisgarh Institute of Medical Sciences during the period 2 yrs. period of Jan 2012 to Dec 2013. A sample of 50 patients aged between 5 to 50 years attending the outpatient department of ENT was enrolled. Patients having hoarseness of voice and or dysphagia were included. Flexible video laryngoscopy was done for all the patients with hoarseness of voice. RESULTS: A total of 50 patients were evaluated. The maximum incidence of hoarseness was observed in the age group of 41-50 years. There were 17 females and 33 males. 50/50 patients were having hoarseness of voice and dysphagia was found in 26/50 (52%) patients. 36/50 (72%) patients had a history of vocal stress. Vocal cord nodules appeared to be the most prevalent type 12/50 (24%) of patients. CONCLUSION: Vocal nodules were present in one third of teaching profession patients with vocal stress and hoarseness of voice.

KEYWORDS: Hoarseness of voice, Vocal cord nodules, Teaching profession.

INTRODUCTION: Voice has been recognized as an occupational tool in a number of professions in present world. The impact of voice disorders in professions where the voice is an occupational tool is two-fold and has profound impact on the emotional and occupational aspects of life. (Vilkman, 2004)¹ Hoarseness, a common voice disorder, due to vocal cord lesions, may be either benign or malignant. With advancement of stroboscope it has becomes easy to appreciate the act of phonation and vocal cord abnormalities.² The benign laryngeal lesions occur in a ratio of 2:3 to the malignant lesions. Previous studies have shown that benign lesions appears to be most common cause of hoarseness.³⁻⁵ To this purpose, we evaluated the prevalence of various benign lesions in vocal cords causing hoarseness in teaching professionals attending to tertiary care hospital.

METHODS: This study was conducted at CIMS Chhattisgarh Institute of Medical Sciences during the period 2 yrs. period of Jan 2012 to Dec 2013. A sample of 50 teaching professionals aged between 35 to 50 years with hoarseness of voice and or dysphagia attending the outpatient department of ENT were included. Patients with laryngeal malignancies, critically ill patients, patients who have undergone laryngeal surgeries or tracheostomy, patients with history neck
injuries were excluded. All the patients involved were explained about the procedure and involvement in this study and a voluntary informed consent was obtained for the same. Each patient underwent physical examination, ENT examination which includes indirect laryngoscopy, flexible video laryngoscopy.

**STATISTICAL ANALYSIS:** Data was entered into excel spread sheet and presented as mean & SD, actual numbers and percentages.

**RESULTS:** A total of 50 patients were evaluated. The maximum incidence of hoarseness was observed in the age group of 41-50 years. There were 17 females and 33 males. 50/50 patients were having hoarseness of voice and dysphagia was found in 26/50 (52%) patients. 36/50 (72%) patients had a history of vocal stress. Vocal cord nodules appeared to be the most prevalent type 12/50 (24%) of patients.

**DISCUSSION:** Approximately around one third of the workers in industrialized societies uses its own voice as the principal tool of work.(1) Teachers in primary and secondary schools, represent the largest group of professionals who use their voice as primary job tool. They often use their voice with high-intensity, in noisy classrooms, for a long time and without suitable breaks. Multiple voice symptoms including hoarseness, discomfort while using their voice, difficulty projecting their voice and tiring or change in voice quality after short use are commonly seen among teachers.(6-7) Hoarseness of voice is used to describe the change in voice quality. We evaluated the structural changes in vocal cords among of teachers with hoarseness of voice and found that Vocal nodules were present in one third of teaching profession with vocal stress and hoarseness of voice followed by chronic laryngitis. Vocal nodules cause hoarseness, throat discomfort or pain which varies with the amount of voice use. The aetiology of vocal nodules is not known, but traditionally they are thought to be due to 'voice abuse' and psychological factors. Other medical conditions, such as infection, allergy and reflux may also play a role. Most of them were between 40-50 years of age, Males had higher incidence of hoarseness when compared to females, which was supported by Stewart JP et al,(8) Chopra et al(9) and Batra et al.(10) Sinhal P et al(7) Vocal stress is the most common underlying etiologic factor. In our series vocal cord nodules were seen in 24% patients and they were bilateral in all the patients. Similar findings were reported by Mehta et al.(11) Parikh et al(12) reported 91% of vocal cord nodules as bilateral.

**CONCLUSION:** Vocal nodules were present in one third of teaching profession with vocal stress and hoarseness of voice followed by chronic laryngitis.

**REFERENCES:**
### Table 1

<table>
<thead>
<tr>
<th>Benign Lesions</th>
<th>12</th>
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<tbody>
<tr>
<td>Vocal Cord Nodule</td>
<td>12</td>
<td>24</td>
</tr>
<tr>
<td>Chronic Laryngitis</td>
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<td>59</td>
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<td>Other causes</td>
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