

**A GIANT VOCAL NODULE CAUSING HOARSENESS IN AN ADULT MALE: A CASE REPORT****NGAMDU YB<sup>1</sup>, NGADDA HA<sup>2</sup>, KODIYA AM<sup>1</sup>, SANDABE MB<sup>1</sup>, ISA A<sup>1</sup>, GARANDAWA HI<sup>1</sup>**

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**SUMMARY**

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A vocal cord nodule is a common non-neoplastic laryngeal lesion seen in teenagers and young adults. Also, voice abuse is a common aetiological agent and it presents usually with hoarseness as the only symptom. Fortunately, most patients with this condition can be treated conservatively. A case of a giant vocal cord nodule in a 35-year old man who presented with hoarseness for 3 years was presented.

**KEYWORDS:** Giant, vocal cord nodule, hoarseness, adult

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**INTRODUCTION**

A vocal cord nodule (singer's or screamer's or preacher's nodes) is a common laryngeal benign lesion and also a common cause of hoarseness in adults.<sup>1,2</sup> They are mostly seen in young female adults and male teenagers. The lesion is caused by stress or irritation due to inflammation, allergic or immunologic phenomena of the vocal cords.<sup>3</sup> They usually present with remitting hoarseness

and/or other nonspecific laryngeal and/or pharyngeal symptoms. Treatment includes, voice therapy aimed at reducing stress on the vocal cords and teaching normal voice production. However, giant vocal nodules are not amenable to conservative therapy and are treated surgically. Microlaryngeal excision is a preferred surgical modality and has a better outcome. In a resource limited environment like Nigeria, however, where facilities for microlaryngeal surgeries are limited or unavailable, surgical excision using conventional laryngoscopes, light source and forceps is practiced.

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We report a case of a giant right vocal cord nodule in a 35-year old male farmer who presented with an unremitting hoarseness for 3 years.

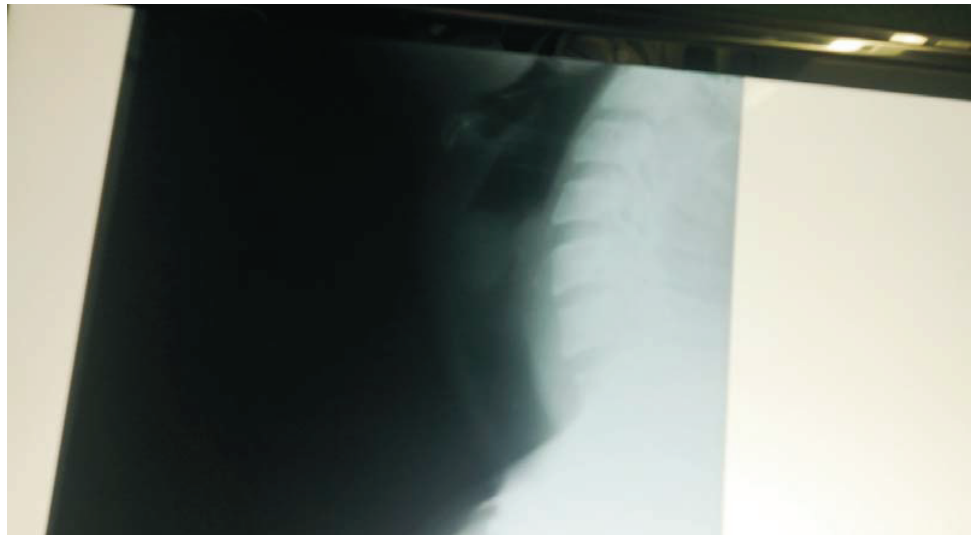
**CASE SUMMARY**

A 35-year old male farmer presented to our clinic with a 3-year history of remitting hoarseness which later became unremitting. It was preceded by an upper respiratory tract infection. There was an associated history of stridor, difficulty

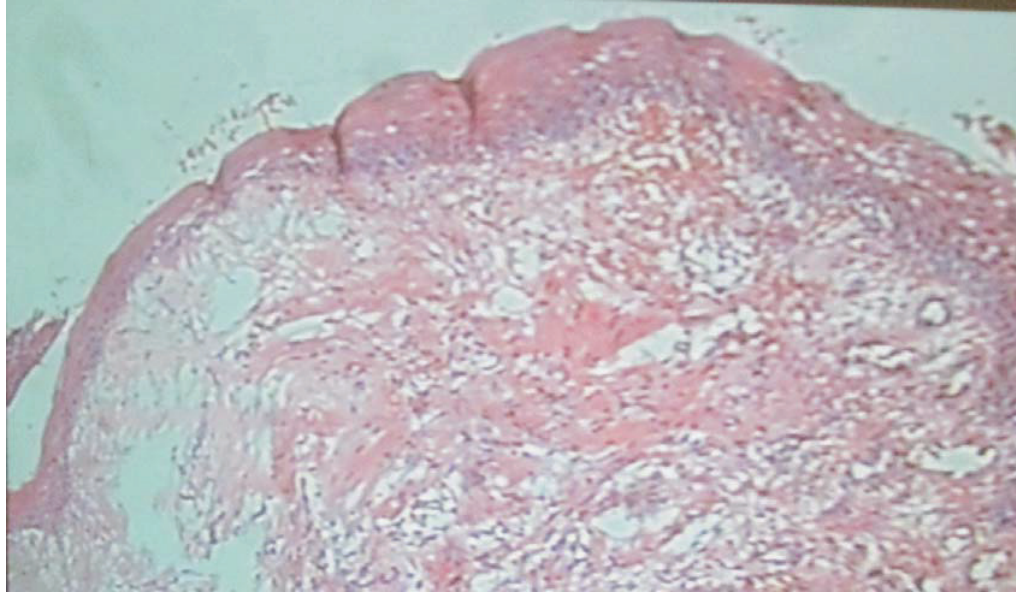
with breathing, cough; productive of whitish sputum not blood stained, dysphasia, constant throat clearing and weight loss. Indirect laryngoscopy revealed a mass occupying the laryngeal vestibule with ulcerated surface obscuring both the false and true vocal cords on both sides. Plain x-ray soft tissue of the neck showed a round soft tissue shadow at the level of the larynx, with a slit-like air column posteriorly [figure 1].

Thereafter, he was prepared for elective tracheostomy, direct laryngoscopy and biopsy of the laryngeal mass. Intra-operative findings were a huge pedunculated polypoid mass with severe

contact bleeding extending from the right supraglottic to the right vocal cord. The left vocal cord was free. The histology of the initial biopsy of the lesion revealed chronic non specific inflammation. However, the mass was excised completely via laryngofissure and the normal anatomy of the laryngeal structures was maintained. The histology of the mass revealed it was a laryngeal nodule; angiomatoid variant [figure 2]. He was decannulated on the 5<sup>th</sup> post operative day with good vocalisation [figures 3]. Subsequently, he was seen four times on follow up and his voice was remarkably improved. Indirect laryngoscopy showed true vocal cord appeared normal in position and motility.



**Figure 1:** Lateral view soft tissue x-ray of neck showing a soft tissue mass at the laryngeal level with a slit of air column posteriorly.



**Figure 2:** Photomicroph of Angiomatoid variant of laryngeal nodule [H&E X 128]



**Figure 3:** Lateral view soft tissue neck x-ray showing adequate laryngeal air column after laryngofissure and decannulation

## DISCUSSION

Vocal cord nodule or polyp (laryngeal nodules, singer`s, preacher`s or screamer`s nodes) represents a non-neoplastic, vascular stromal reaction in the Reinke`s space to phonotrauma in the form of vocal abuse (yelling), vocal overuse (excessive quantity of voice), and vocal misuse (vocal hyperfunction with excessive muscular tension).<sup>4</sup> A nodule is a small sessile lesion, usually less than 3 millimetres (mm) in its widest dimension, typically bilateral, symmetrical and immobile during phonation.<sup>5-8</sup> In contrast, a polyp may be sessile or pedunculated, usually larger than 3mm in its widest dimension, unilateral and, if pedunculated, mobile on phonation. The literature, however, indicate that vocal cord nodules and polyps are etiologically related and histologically identical, differing only in size.<sup>9</sup> If left untreated, any nodule has the capacity to develop into a polyp. The distinction between the two lesions on the basis of the above criteria, therefore, has no merit or clinical significance. The two terms can be used interchangeably or according to one`s bias.

Reinke`s space is a gelatine like potential space in the vocal cord subepithelium containing loose fibrous and extracellular matrix. It is devoid of vessels and lymphatics, thus making this area susceptible to accumulation of fluids and proteins.<sup>10</sup> Vocal cord nodules are usually bilateral and symmetrical. There is a female predisposition which relates to the abnormalities in glottis closure in the female larynx.<sup>11</sup> On the contrary, vocal cord polyps are usually unilateral, sessile or pedunculated and have a male preponderance.

Vocal cord nodules usually occur at the junction of anterior third and middle third which is the point of maximum vibratory impact. Nodules form after repetitive tissue trauma from chief factors of phonotrauma. Smoking, gastroesophageal reflux, atmospheric pollutants and hypothyroidism may be additional contributing or aggravating factors.<sup>11,12</sup> In the index case the lesion was preceded by upper respiratory tract infection.

Pathology is characterised by the finding of stromal change-either myxoid or oedematous, fibrous vascular, usually underlying the stratified squamous epithelium.<sup>10</sup> Dilated vascular spaces or train of sparse haemorrhage may be present which is in keeping with our case; presence of contact bleeding and angiomatoid variant. Inflammatory cells infiltrate are infrequent and glandular element are absent. The squamous epithelium may be normal, atrophic or hyperkeratotic<sup>13,14</sup> or at times dysplastic. Ulceration of vocal nodules may be noted. Five histologic types of VCN or Ps are recognized: (i) oedematous-myxoid, (ii) fibrous, (ii) hyaline (amyloid-like), (iv) vascular, and (v) mixed.<sup>9</sup>

If trauma persists, acute inflammation becomes chronic with thickening affecting the epithelium and submucosal hyalination. These changes are not reversible.

VCN or Ps affects both sexes and all age group, with a peak incidence between 20 and 50years. Presenting symptoms range from remitting (intermittent) or unremitting (permanent) hoarseness, as in the index case. Patients often complain that their voice fatigues easily and that it is best

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## Giant Vocal Nodule

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first in the morning and worse with prolonged speaking or signing.<sup>6</sup> Airway compromise is not a significant issue. Sometimes others associated nonspecific pharyngeal symptoms: frequent throat clearance, sore throat, coughing etc.

On laryngoscopy, the vocal cord nodules are usually bilateral, shining white, pearly gray, tan, or red growths with a wide base and located at the junction of the anterior third and the middle third of the vocal cord, rarely exceeding 15mm in greatest dimension. It is white and fibrotic in chronic ones. On stroboscopy- chronic nodule stop mucosal wave projection. Although otolaryngologists are highly adept in recognizing vocal cord nodules, other lesions such as keratosis, squamous papilloma or even amyloid may be mistaken for these lesions.<sup>15</sup>

Treatment involves voice therapy aimed at eliminating phonotrauma. It is also directed at reducing stress and teaching normal voice production. Majority of vocal cord nodules either resolve or are greatly improved. Only in rare instance a microlaryngeal excision is required. However, giant vocal nodules are not amenable to conservative therapy and are treated surgically. Microlaryngeal excision is a preferred surgical modality and has a

better outcome. In a resource limited environment like Nigeria, however, where facilities for microlaryngeal surgeries are limited or unavailable, surgical excision using conventional laryngoscopes, light source and forceps is practiced. In the reported case the lesion was excised via laryngofissure because of the vascular nature of the lesion.

Rehabilitation (remove source of the stress and vocal rest) and vocal hygiene (lubrication of the cords, hydration and respiratory coordination) are the main stay in prevention of recurrence. Surgery is indicated in cases where the hoarseness is not acceptable for the patient or when the nodule does not disappear after speech therapy.

Polyps are usually larger than nodules, with a wide or a narrow pedicle and may have contact lesion in the contralateral vocal cord.<sup>1</sup> In laryngeal polyps, medical treatment is not important other than removing the possible harmful sources. It is treated through surgical excision. Microsurgical technique is directed to the polyp, removal by cutting the pedicle and avoiding disrupting the voice ligaments. Endoscopic laser removal has also been proposed.<sup>1</sup> ■■■

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