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Laryngofissure Approach for Large Benign Tumour of Larynx: A Case Report & Review

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ABSTRACT
There are various types of benign tumours of larynx, depending upon the site and size, their management may vary.[1] The benign tumors either sessile or pedunculated. They are often detected at an early stage and removed by Micro laryngeal surgery. The benign tumors present with hoarseness of voice, dysphagia and sometimes difficulty in breathing.[2] It is rare a condition that patient with benign tumour of larynx need trachestomy.
We are presenting a 50 yr old tracheostomized male patient having huge tumour of larynx, who was advised total laryngectomy. The multiple biopsies showed suspicion of malignant tumour. It was removed by laryngofissure approach as the tumour was not negotiable by MLS. Laryngofissure, also known as median thyrotomy, refers to vertically splitting the thyroid cartilage in the midline to gain access to the endolarynx [7]. Two years follow up shows no recurrence of disease.

INTRODUCTION

The surgical approach to larynx are endoscopic and open. The endoscopic approach also termed as MLS. Most of the benign tumours can be assessed by microlaryngeal surgery. Open approach (Laryngofissure) is limited to huge tumour larynx and carcinoma of Glottis T1 or T2. The following is a case report of one such patient who presented to our institution with spindle cell tumour of the larynx and underwent Laryngofissure approach to remove the tumour.

The spindle cell carcinoma (SpCC) or sarcomatoid carcinoma is a highly malignant variant of squamous cell carcinoma. It is a rare tumor with a reported incidence of 2% to 3% of all laryngeal cancers.[4] Spindle cell carcinoma is considered to be a biphasic tumor that is composed of a squamous cell carcinoma (in situ or invasive) and spindle cell carcinoma with sarcomatous appearance[4].

Laryngofissure, also known as median thyrotomy, refers to vertically splitting the thyroid cartilage in the midline to gain access to the endolarynx. It provides good exposure to both anterior and posterior laryngeal structures with very minor morbidity. There are few indications of Laryngofissure in era of endoscopic surgery but still it has some role in management of large benign laryngeal tumour.

CASE REPORT

A 50-year-old tracheostomized male came to the otorhinolaryngology department with complaints of progressive change of voice for 1 year. There was no history of neck swelling, bleeding from mouth etc. On laryngoscopy, there was huge mass present in supraglottis area so rest of the larynx was not visualized and the site of origin could not be made out (figure1). There was no widening of thyroid ala. Mass was having smooth border and irregular surface, no ulceration seen. On histopathological evaluation of the biopsy taken, it showed spindle cell tumour with features of moderate nuclear atypia but malignancy could not be ruled out.

A computed tomography (CECT) scan of the neck showed a heterogeneously mild enhancing, smooth, likely benign lesion in the supraglottic area and completely obliterating the rima glottidis also extending to subglottis area. There was no erosion of the cartilage or extension to paraglottis or preepiglottic space.

He was planned for Micro Laryngeal Surgery but could not be negotiated due to its huge size so the excision of tumour was done via a laryngofissure approach (figure 2) . The tumour was found to be pedunculated and attached to right vocal cord. Tumour sent for HPE and it showed cellular tumour comprising of spindled cells arranged in fascicular pattern to focal storiform pattern. The cells revealed moderate nuclear pleomorphism with hyperchromatic nuclei and abundant ill-defined cytoplasm. Few bizarre tumour cells were also seen. Postoperatively, he did well without recurrence or metastasis for past two years (figure3). The patient's symptoms gradually improved, and he regained good control of his voice.

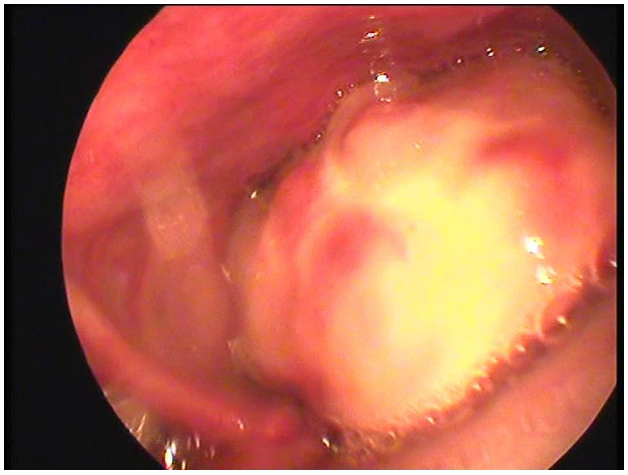

Figure 1- Endoscopic view of larynx showing huge tumour filling supraglottis

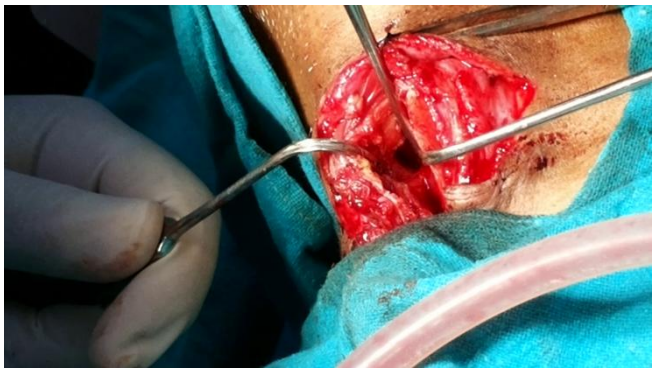

Figure 2- Laryngofissure approach- showing interior of Larynx

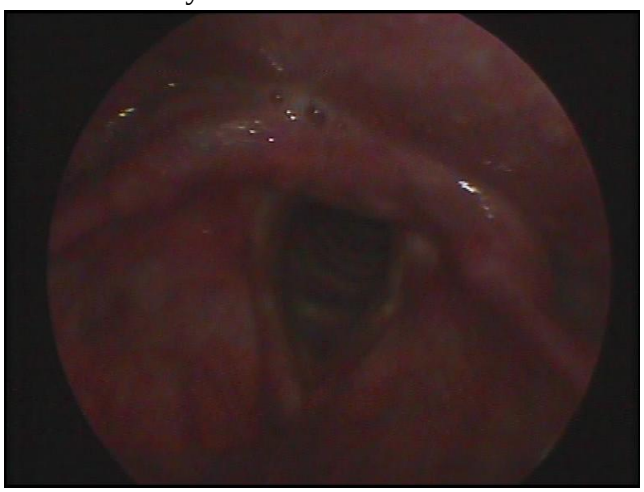

Figure 3- two years Post operative showing normal larynx

DISCUSSION

Spindle cell tumour is more predominant in men compared to females (12 : 1 ratio) although it is becoming more common in females, and it is usually seen in the 6th and 7th decades of life [5]. Spindle cell carcinoma most commonly affects the

glottis in the majority of cases (70%). The majority of these tumors are characterized as being polypoid or pedunculated (98.9%) tumors that are often less than 2 cm in size[3]. In our case HPE report suggested that it's a spindle cell tumour of larynx but clinically its was benign tumour.

The benign laryngeal lesion produces symptoms which can vary from mild hoarseness to life-threatening stridor. Early diagnosis of the lesions can lead to effective management and good recovery[6]. As such, the standard treatment of choice in all types of benign tumors of the larynx should consist of a triad of approach- surgery, voice rest and vocal rehabilitation.

The size and location of the lesion dictates the approach for excision. Smaller lesions can be excised micro laryngeal surgery, however larger lesions may require an external approach in the form of median thyrotomy (laryngofissure)[7]. In our case, the lesion could not be resected fully at initial microlaryngoscopy as it was difficult access; hence, the patient underwent excision of the lesion via a Laryngofissure approach.

In summary, Laryngofissure had a successful outcome in this case for a large benign laryngeal tumour.. The size of the lesion dictates the approach for excision and complete resection is needed to prevent recurrence. Although rare, it is important to consider a diagnosis of spindle cell carcinoma with an atypical mass arising in the larynx. Also biopsy report may be misleading.

CONCLUSION

The surgical approach for larynx may be endoscopic or open depending on various factors like size of tumour, type of tumour and also the patients factors like OSMF. The Laryngofissure approach still remains relevant in management of benign laryngeal tumour which cannot be assessed by the MLS. The biopsy report should also be co related with clinical feature and others investigations. The patient underwent surgical excision by laryngofissure. He came for regular follow up and his symptoms subsequently improved, with no signs of recurrance and he regained good control of his voice.

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