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Oral Schwanomma Challenging Intubation

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Abstract

Schwannoma, also known as perineural sheath tumour. It mainly affects the second and third decade and can cause severe symptoms like difficulty in breathing or swallowing if it becomes large. Schwannoma rarely seen in young adults. Schwannoma is well encapsulated, slow growing benign tumour that can rarely present in oral cavity. Here we have reported a case of 35-year-old male presented with symptoms of slow growing swelling over floor of mouth and occasional history of snoring. Clinically it was suspected as ranula as the overlying mucosa was bluish in colour. Patient underwent excision of the lesion by intraoral approach with a sublingual incision, under general anaesthesia with oral intubation. Lesion removed in toto as the cyst wall was thick and sent for histopathologically examination .The final report came as a Schwannoma Transoral approach is most commonly used approach but the decision should be based upon the clinical evaluation such as the size and shape of the lesion. For better diagnosis of the oral cavity swelling a team work should be needed between Otolaryngologist, radiologist, and pathologist. To enhance our understanding a literature review was done which included the reports on oral cavity schwannoma. Most of the cases underwent transoral excision of the mass with very limited array of literature is available for large tongue base schwannoma cases.

Keywords: Schwannoma; Tongue base lesions; Transoral Approach

Introduction

Schwannoma is a slow growing benign tumour which arises from any nerve sheath cell i.e. Schwann cell whether it is spinal, cranial, or autonomic nervous system. Schwannoma rarely occur in oral cavity with prevalence of 1 to 12% of all schwannomas mainly in the tongue. It mainly affects the second and third decade and can be life-threatening if it becomes large [1]. Developing in youth is unusual [2]. Here we have reported case of oral cavity schwannoma as one of the differential diagnoses to be considered in an oral cavity lesion and proper imaging and biopsy is needed to diagnosis. Most of the patient can be managed with intraoral approach only few larger lesions may require external approach such as mandibulotomy with excision of the tumour.

Case presentation

A 35-year-old male Hindu by religion resident of Mumbai labourer by profession presented to OPD with chief complaints of slow growing swelling insidious in onset along the base of tongue at first it was size of peanut which gradually increased in size to present size approximately to size of an apple since 1 year. Later patient also developed complaints of snoring at night since 5-6 months. The swelling was painless, no history of bleeding, not associated with difficulty in swallowing/noisy breathing. He denied fever, chills, loss of appetite, weight loss and other constitutional symptoms. The patient has no remarkable past medical history or any major medical or surgical illness. Denied history of any addiction.

In the physical examination, vital signs were normal. Intra-oral examination revealed poor acceptable oral hygiene and mouth opening 4 finger breadths. There was large swelling of approximately 6X3 cm size along the floor of mouth, on palpation swelling has smooth surface and soft in consistency, non-tender, did not bleed on touch extending along the floor of mouth and ventral surface of tongue. There

was no evidence of any ulceration or discharging sinus, swelling was not bimanually palpable. In neck examination no cervical lymphadenopathy. Rest of the oral cavity and head neck examination was normal.

Computed Topography of oral cavity and neck with contrast revealed a well-defined non enhancing lesion is seen arising from the floor of mouth in the midline measuring approximately 6.1X4.0 cm (APXML) in axial dimensions and has a craniocaudal extent of 5 cm which shows hyperdense content extending superiorly abutting the inferior border of tongue and superiorly displacing tongue superiorly and posteriorly, laterally the lesion is closely abutting mandible, inferiorly displacing and compressing genioglossus muscle (Figure 1).

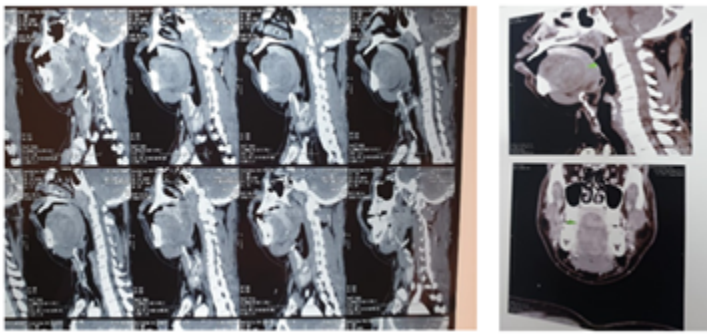

Figure 1: CT scan of Neck showing extension of lesion.

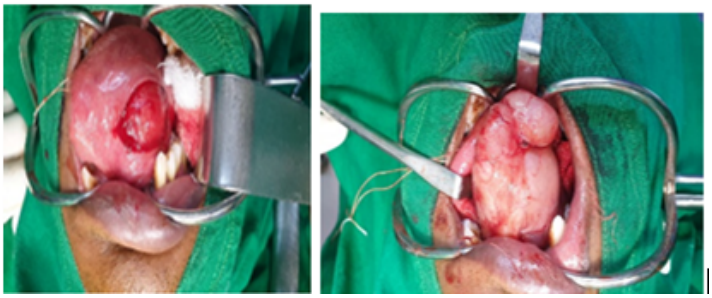

Figure 2: Showing Intraoral Approach for Excision of the Mass.

The laryngx was not visualised on indirect laryngoscopy in OPD. We suspected that intubation would be difficult in this patient. This was confirmed by the anasthetist in OT which giving general anasthesia.We then went ahead by doing transnasal fibreoptic intubation which was also challenging as the supine position of the patient posed a challenge in manoeuvring the flexible bronchoscope in the oropharynx. The patient underwent complete excision of the mass with transoral approach under general anaesthesia with oral intubation. (Figure 2) Intraoperatively we found submucosal smooth surface well-encapsulated mass, greyish white in colour; dimensions were (8x6x2) cm which removed in toto. (Figure 3) The defect closed primarily using absorbable sutures. Procedure was uneventful. In the postoperative period, the patient did not develop any significant pain or discomfort, breathing was normal, and oral feeding was allowed at day 1 of postoperative day. The patient was discharged from the hospital at day2 postoperatively.

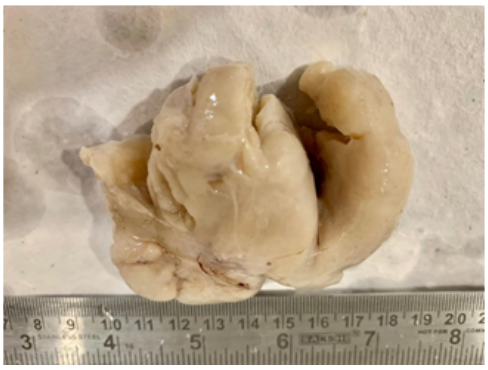

Figure 3: Surgical Specimen Showing Well Encapsulated, White In Colour, Smooth Surfaced Mass.

Surgical specimen was sent for histopathological examination. Microscopically, the lesion was a well encapsulated benign

tumour revealing groups of spindle cells with nuclei arranged in a distinct palisading fashion, characterized by a combination of hypercellular and hypocellular areas with the presence of Verocay bodies (Figure 4). There is no evidence of malignancy. Immunohistochemistry was positive for S-100 protein, confirming the diagnosis of schwannoma. In the postoperative period, patient was followed up at on 1 month after surgery. He did not complain any abnormal sensation or swallowing difficulties. The patient gave regular follow up upto 6 months post-surgery with good healing of intraoral wound and no evidence of disease recurrence.

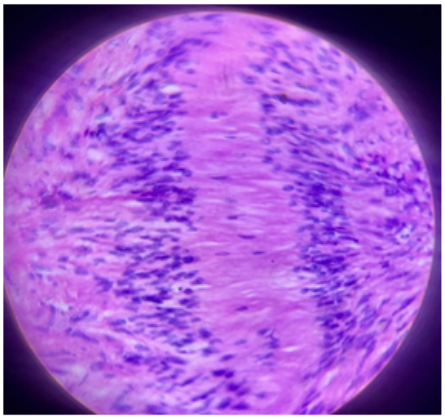

Figure 4: Microscopy of the Schwannoma.

Discussion

Schwannomas are slow growing well encapsulated benign tumor arising from nerve sheath cells, Schwan cells. 20 to 50% of all schwannoma cases occur in cervico-facial region. Among which acoustic schwannoma arisisng from the 8th CN are more common. The oral cavity, schwannoma is rare (1 to 12%) [3]. Intraoral schwannomas mostly arise from the tongue, followed by the palate, mouth floor, gingiva, lip, and vestibule [3]. Usually, it presents as a painless mass in any part of the tongue. It hardly produces any symptoms when it is less than 2cm. However, when the mass grows over 3 cm, compression symptoms may occur such as dysphagia, odynophagia, or swallowing discomfort, altered voice. Dyspnoea is emergency warning manifestation that makes surgical management urgent [4].

The differential diagnosis for lingual schwannoma may include neurofibroma, lingual thyroid, lipoma, lymphangioma, leiomyoma, and benign salivary gland tumours, ranula [5]. However, malignant tumors such as liposarcomas, lymphoma, or carcinoma should be kept in mind. Malignant tumors will rarely present as slow growing mass but typically schwannoma does. Malignant transformation of schwannoma is rare and mostly happens in “ancient” schwannoma or in case of neurofibromatosis [2].

Imaging techniques include intraoral ultrasound sonography, CT scan and MRI. However, MRI is the choice of investigation as it can elaborate the exact extent of the tumour. MRI shows the mass as a well encapsulated lesion isointense to muscle on T1-weighted images and homogeneously hyperintense on T2-weighted images [5]. However, tumour necrosis due to the mass volume or its transformation may alter these radiological characteristics. The confirmatory diagnosis is done by fine needle aspiration from the lesion which is not always practicable as in our case, and confirmed by histopathological examination [6]. Microscopically, schwannomas are composed of two prototypes of cell organization called Antoni A and Antoni B.

The Antoni A region is a hypercellular zone with fusiform cells that have nuclei arranged in palisade forming parallel rows and producing the Verocay bodies. The Antoni B region is a hypocellular with a loose myxoid stroma that might exhibit degenerative features, such as cysts, calcifications, haemorrhages, hyalinization, and inflammatory infiltrate. On Immunohistochemistry schwannoma cells show strong, diffuse nuclear and cytoplasmic S-100 protein expression and extensive nuclear SOX10. Other immunohistochemistry markers are E.N.E., vimentin, glycoprotein, SMA, desmin, and dimentin [7]. Complete surgical excision of the mass is the main line of treatment. The transoral approach remains the widely used approach. Other approaches were also documented in cases of large schwannoma which are difficult to access through transoral approach such as submandibular, suprahyoid, trans-hyoid, and lip split with mandibulotomy approach [2]. In surgical approach, oral cavity schwannoma presents another challenge regarding securing airways before surgery. Intubation might require the use of fibroscope or videolaryngoscope, but most importantly the hands of an experienced anesthesiologist. However, in some cases, temporary tracheotomy can be performed if necessary.

Conclusion

Oral cavity schwannoma is rare, and the usual oral location is the tongue. This particular site holds life-threatening impact symptoms and also challenges during induction of anaesthesia and securing airways. In our case we performed a trans-oral resection of an oral cavity schwannoma. As the tumor is well encapsulated, the approach was easier and less invasive for complete surgical excision. This tumor should be considered amongst the many differential diagnosis of oral cavity lesion such as the neoplastic, infectious, congenital causes to avoid delay in diagnosis and proper treatment.

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