



NEURILEMMOMA OF LOWER LIP MIMICKING IRRITATED FIBROMA: A CASE REPORT AND REVIEW OF LITERATURE

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Abstract

Schwannoma (neurilemmoma), is a benign, encapsulated tumour with a slow growing pattern, which is often single and originates from the Schwann cells in peripheral, cranial, spinal, and autonomic nerves. The incidence of occurrence in head and neck region is 25-50% and only 1-12% occur intraorally. The occurrence of Schwannoma is rare in lower lip region. In this article we report a case of schwannoma of the lower lip and also reviewed on current literature of intra oral schwannoma to focus on the current concepts in investigation and management.

Keywords: Schwannoma, Neurilemmoma, Schwann cells, Oral cavity, Vero cay Bodies.

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1. Introduction

Schwannomas are slow-growing, benign neoplasms that originate from the Schwann cells. It was first described by Vero cay in 1908. The incidence of Schwannoma in head and region is about 25-50% with only 1-12% occurring intraorally. Its more commonly seen in 2nd and 3rd decade of life, with no gender predominance ^[1]. The most common aetiology been genetic predisposition, spontaneous growth, external injury, or chronic inflammation. Schwannoma is more predominant in third to fourth decade of life, most commonly occurring in tongue followed by hard palate, buccal mucosa, gingiva, floor of the mouth with least commonly occurring in lips and vestibular mucosa ^[2]. Schwannoma of the lip presents as a painless mass with conventional histology demonstrating Antoni A (Vero cay) patterns of nuclear palisades surrounding cellular bodies alternating with hypocellular Antoni B patterns ^[3]. S-100 protein in immunohistochemistry is classic marker for diagnostic confirmation, and magnetic resonance imaging (MRI) is the gold standard for preoperative imaging ^[4].

The most common concern for patients with lip schwannoma is the disfigurement and aesthetics. Complete surgical excision is the definitive treatment for the lesion and the rate of recurrence is low after complete excision of the lesion.

2. Material and methods

The National Library of Medicine's PubMed database was systematically searched for articles over the period of 10 years from 2011 to 2022. The keywords used to search were Schwannoma, Neurolemmoma, Schwann cells, Oral cavity, Vero cay Bodies. Titles and abstracts were screened for possible inclusion and exclusion criteria, and only full text relevant articles was retrieved for review. The inclusion criteria were: English articles, studies involving human studies, and schwannoma involving the oral cavity. All other articles were effectively excluded if they did not meet the above criteria.

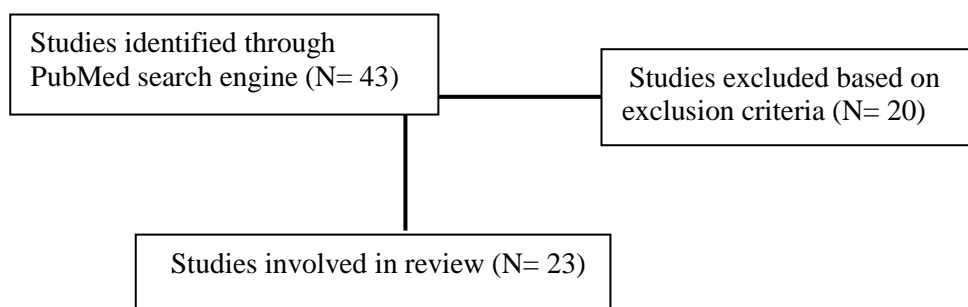


Figure 1 Systematic search of PubMed returned 43 studies. After review of the titles, abstracts, and full text, 23 studies were included in the present review. We have also reported a case of schwannoma of the lower lip and its management

Case report

A 50years old female patient came to the department of Oral and Maxillofacial surgery in SRM dental college, Ramapuram with chief complain of swelling in the left lower lip for the past 6 months. The swelling was not associated with any pain. Patient did not have any history of trauma/lip biting. The patient gives history of

extraction of lower teeth one month back. Patient is a known diabetic for past 2 years and is under medication. On physical examination, the patient was otherwise healthy, the vitals being stable. Local examination revealed a single well-defined swelling of about 2x2 cm in dimensions. The swelling was fluctuant, nontender, and not associated with any bleed or pus discharge. There was no evidence of any significant lymph node and the lesion was not involving the underlying structures. Provisional diagnosis of fibroma/lipoma was made and patient was planned for surgical excision of the lesion.



Fig: 1&2: Intra oral lesions and marking of the lesion

Crevicular incision was made, layer wise dissection was done. There was an evidence of shiny encapsulated mass The lesion was surgically excised in toto, with clear margins of 0.5mm and primary closure was done. The specimen was sent for histopathological analysis, which showed encapsulated mass of connective tissue exhibiting cellular stroma. The stromal cells were smaller spindle shaped and, in some areas, exhibit palisading arrangement enclosing acellular

eosinophilic areas resembling Vero cay bodies. The stromal cells exhibited positivity for S100 protein in Immunohistochemistry study suggesting schwannoma. Does the final diagnosis of Schwannoma was made. The patient was reviewed after 3 days and suture removal was done on 8th day. The patient was followed up for 8 months for any signs of recurrence and there was no evidence of any recurrence.



Fig 3: Dissection of the tissues



Fig 4: Excision of the lesion

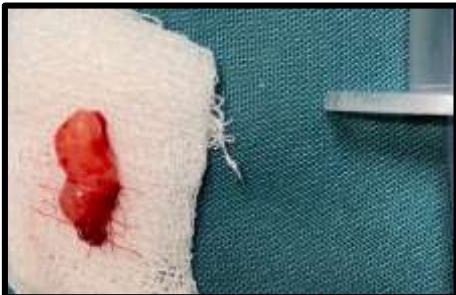


Fig 5: Excised specimen

TABLE 1

Sl.no	Author's	Site	Age (Yrs .)	Gender/ No: of cases (n)	Duration of the lesion (Months)	Dimension of the lesion/ Invasion to deeper tissues	Follow-up period (Months)	Recurrence / Malignant transformation	Secondary treatment for recurrence

1	Pravin N.Lambade et al ^[4] (2013)	Buccal mucosa	52	Male N=1	6 Months	4 x3 cm	6	Nil	Nil
2	N. S. C. Charles et al ^[5] (2013)	Floor of the mouth	28	Male N=1	1 Month	4 ×3 cm	NS	Nil	Nil
3	Jenna Sitenga et al ^[6] (2018)	Lip	NS	M F N= 21	29.3 Months	NS	12	N=2	Radiotherapy/ Radical excision
4	Ranendra Hajong et al ^[7] (2016)	Lip	14	Female N=1	120 Months	6.5 cm	24	Nil	Nil
5	Jimish Desai et al ^[8] 2019	Upper lip	14	Male N=1	8 Months	1 cm × 1.3 cm	NS	Nil	Nil
6	Bakir M et al ^[9] 2021	Lower lip	22	Female N=1	24 Months	1.5 x 1 cm	NS	Nil	Nil
7	Maria Luisa Gainza-Cirauqui et al ^[10] 2012	Hard palate	35	Female N=1	60 Months	2.0 x 1.5 cm	24	Nil	Nil
8	Beatriz Vera-Sirera et al 2017 ^[11]	Palate	26	Female	NS	3×2 cm Deformation of oropharyngeal lumen with no infiltration	14	Nil	Nil
9	P. Tamiolakis et al 2017 ^[12]	Palate	12	Female	2 weeks	2.5×2 cm	18-	Nil	Nil
10	Stylianios Kapetanakis et al 2012 ^[13]	soft palate	21	Female	14 months	1.5-2-cm	17	Nil	Nil
11	Monir Moradzadeh Khiavi et al ^[14] 2014	palate	21	Male	2 months	2×2-cm	6	Nil	Nil
12	Kevin Wayne Lollar, MD et al 2010 ^[15]	hard palate	33	Male	3-month	2 × 2-cm	NS	Nil	Nil
13	Sanjay Jadwani et al 2012 ^[16]	Retromolar Region	24	Female	11 months	20 mm diameter	NS	Nil	Nil
14	Ajit Singh Rathore et al 2015 ^[17]	Retromolar Region	70	Male	1 year	3× 3 cm	NS	Nil	Nil
15	Farzaneh Agha-Hosseini et al 2021 ^[18]	Tongue	15	Male	1 month	1.5 × 1.5 cm	12	Nil	Nil
16	Fayez A. Alrohaimi et	Tongue	12	Male	5 month	2.3 × 2 cm	2 weeks	Nil	Nil

	al ^[19] 2021				s				
17	Mohd. Yusuf Haider et al 2020 ^[20]	Base of the tongue	28	Male	NS	4 cm × 3 cm	12	Nil	Nil
18	Ines Abreu et al 2017 ^[21]	Right border of tongue	20	Male	1 year	1,5 × 1,5 cm	NS	NS	NS
19	Giridhar S Naidu et al 2022 ^[22]	Ventral aspect of tongue	12	Male	15 days	20×10 mm	3	Nil	Nil
20	Jakob Kavčič et al (2016) ^[23]	Tip of the tongue	20	Femal e	1 year	15×9×9 mm	NS	NS	NS
21	Carlos Moreno- Garcia et al(2011) ^[24]	Ventral aspect of tongue	13	Femal e	3 month s	2 cm	1	Nil	Nil
22	Steffi Sharma et al (2011) ^[25]	Tongue	20	Femal e	8 month s	4×4 cm	1	Nil	Nil
23	Lester D. R. Thompson et al (2019) ^[26]	Tongue	M 23.7 F 39.4	N=19 Male: 13 Femal e :6	43 Month s	0.3 cm to 3.1 cm	2.5	Nil	Nil

3. Discussion

Schwannoma being a benign tumor, the key treatment is complete resection of tumor with clear margins and preserving the adjacent nerve structure. The most common etiology of schwannoma is trauma. Trauma can be accidental or iatrogenic, in our case the patient gave a history of extraction one month back. Jimish Desai et al in his article describes that the common cause of lip schwannoma being trauma but our patient did not report any history of accidental trauma before the occurrence of the swelling in the lower lip. Mohamad Bakir et al in his article describes that the schwannoma of the lip was tender on palpation but in our case, there was no tenderness. The lesion over the lip produced esthetic discomfort for the patient. The injection technique can also cause irritation or damage to the soft tissue. So, the technique of administration of Local anesthesia should be improvised. Gunacharan. I et al^[27] described the dual effect of ice application and precooled local anesthesia had resulted in significant pain reduction in injection pain during deposition of anesthetic solution.^[26] The occurrence of lip schwannoma is rare as compared to other oral structures, tongue being the most common. The most common symptom being pain, swelling, involvement of the underlying neural structures, dysphagia, and dysarthria. The various investigation involves Computed tomography and

MRI being the gold standard showing homogeneous, well delimited, and solid lesion. The final diagnosis is based on the histopathology and immunohistochemistry analysis. Alok A et al^[28] described ultrasonic echography has been used as a diagnostic aid with an advantage that it can be used to examine deeper areas as well as superficial regions. The mean age group for the occurrence in based on our review is 25 years and with male predominance, the most common site being the tongue. The mean duration of the lesion being 17 months. There was no invasion of the lesion to the underlying structure and in only one case there was deformation of oropharyngeal lumen. The schwannoma transforming into malignant lesion is very rare. Solimal Z.R et al in his study used CO2 laser for precise resection and to preserve the vital structures. Kumar S^[29] et al in his article describes that the Laser-assisted vascular anastomosis fulfills the criteria of lesser vessel wall damage and faster anastomosis. Gupta et al recommendation is the gold standard for treatment of oral schwannoma which involves complete excision of the tumor, the surrounding neurovascular structure and local subcutaneous tissue to minimize the recurrence. The recurrence rate in very low. In our review there was only two recurrence cases which was treated by combination of surgical resection and additional therapeutic therapy such as radiotherapy. Schwannoma being a radioresistant lesion, the effect of radiotherapy on

schwannoma is not clear. For more extensive lesions with gross disfigurement and nodal involvement, invasive procedures such as radical resection with neck dissection was used as a treatment modality followed by radiotherapy as a preventive measure. The wound dressing after the surgical procedure need to be administered for providing better wound healing. Raghavan et al^[30] described the use of ResoPac®, a self-dissolving hydrophilic wound protection paste that acts as a medicine carrier, protection barrier, astringent and disinfectant. Tharani Vijayakumar et al^[31] described various treatment modalities including laser, cryosurgery, electrocautery, intralesional corticosteroids, intralesional ethanol, and sclerotherapy for lip lesions. Jenna Sitenga et al in his article reviewed 21 cases with lip schwannoma treated with surgical excision preserving the nerve structure. Only one case showed two-time recurrence in a follow-up of 9 months after the first surgery and 7 months post second surgery which is a characteristic feature of rarer multinodular schwannoma that requires additional therapy such as radiotherapy followed by surgical excision. The case reported in our study did not show any recurrence after the follow up of 7 months. The intra oral site appears normal with no evidence of recurrence.

4. Conclusion

Lip schwannoma are rare benign tumor with a high success rate and low recurrence rate if surgical excision is done with precision and providing a free margin. Histopathology and Immunohistochemistry are proven to be gold standard confirmatory diagnosis of these lesions. Even this is a rare tumor schwannoma of the lip should be considered as one of the differential diagnoses while treating a nodular lesion of the lip.

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