Lipoma Floor of Mouth Causing Hypoglossal Nerve Palsy

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Lipoma is a common benign neoplasm arising from mature adipose tissue and usually develops in subcutaneous tissue. It is seldom found in oral cavity with an incidence of about 1% to 4.4% of all benign oral cavity neoplasms.1,2 Most common sites for oral lipoma include the cheek followed by lips and tongue.3 Lipoma in floor of mouth (FOM) is rare and can present as a slow growing, asymptomatic mass with consistency that varies from soft to firm.4,5 At times, it presents as a massive lump causing speech and mastication problems.6 Due to their benign nature and noninfiltrative pattern, these lesions do not usually involve surrounding nerves. To the best of our knowledge, there is no report in the existing literature demonstrating hypoglossal nerve palsy secondary to FOM lipoma. We report a case of a female patient who had difficulty in speech and mastication caused by a large lipoma in the floor of the mouth with hypoglossal nerve palsy.

A 65 years old, fit and well female presented to our Ear, Nose, and Throat outpatient department with 1 year history of a painless, slow growing mass in the FOM beneath the anterior two-thirds of the tongue. She also complained that the mass caused interference with speech and mastication along with deviation of tongue toward left side which she noticed for 1 month. Clinical examination revealed a firm, nontender mass of approximately 5 cm × 4 cm in size, occupying FOM mostly on left side extending posteriorly up to the lower third molar and toward base of the tongue (Figure 1). The mucosa overlying the swelling was normal and there were no signs of inflammation or ulceration. On protrusion of the tongue, the tip was pointing toward left side, indicating left hypoglossal nerve palsy preoperatively.

Because of the large size and weakness of nerve, there was suspicion of malignancy. Therefore, computed tomography scan was done to investigate the extent of the lump and any neck node metastasis. Radiology showed a well-circumscribed low-attenuating lesion of about 4.5 cm × 2.5 cm along the left lateral border of tongue, involving the left genioglossus muscle suggestive of lipoma or fibrolipoma of oral cavity (Figure 2). Computed tomography scan also reported no significant metastatic neck nodes.

Surgical excision of the mass was done under general anesthesia. An incision was made directly overlying the mass. The oral mucosa was dissected to expose the mass with utmost caution (Figure 3). The lesion was adherent to few branches of hypoglossal nerve supplying genioglossus muscle. Only blunt dissection was carried out throughout the procedure to carefully detach the lesion from adherent adjacent structures, while preventing damage to Wharton duct, lingual, and hypoglossal nerves. This yielded a soft, yellowish lobulated mass measuring 5.1 cm × 4.3 cm × 3.2 cm (Figure 4). The wound was closed in layers with absorbable sutures after achieving good hemostasis. Histopathological examination revealed benign adipose tissue and incomplete fibrous septae along with scattered blood vessels. These findings were consistent with a diagnosis of lipoma. Postoperatively, the patient remained stable and discharged next day. She was followed in outpatient clinic regularly at 1 week, 1 month, 3 months, 6 months, and 1 year postoperatively. Wound healing was uneventful. The left hypoglossal nerve palsy was partially recovered in the first month and fully recovered 3 months after surgery. No recurrence was found at 1-year follow-up.

Hypoglossal nerve palsy occurs more commonly in association with weakness of other adjacent lower cranial nerves. Isolated unilateral hypoglossal nerve palsy is a rare finding. Most frequent causes of unilateral hypoglossal nerve weakness are nasopharyngeal carcinomas, metastasis to the base of skull, carcinomatous meningitis, and trauma.7,8 In one of the largest case series on hypoglossal nerve palsy by Keane,9 the author found neoplastic etiology in 85% of the cases as the main reason for nerve involvement. A recent retrospective series of

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245 cases by Stino et al.\textsuperscript{10} showed neoplasia as third most common cause of hypoglossal nerve palsy after postoperative and idiopathic etiologies.

There are very few reports in the literature describing unilateral 12th nerve palsy secondary to oral neoplastic lesions. Zehlicke et al.\textsuperscript{11} in 2006 reported a rare tumor of FOM called “ancient schwannoma” derived from the nerve sheath of the peripheral part of nerve leading to hemiatrophy and partial deviation of tongue. Similarly, Fakhry et al.\textsuperscript{12} mentioned a case of schwannoma located in left side of FOM presented with hemiparesis of tongue. Moreover, malignant tumors of the oral cavity affecting the hypoglossal nerve have also been reported, namely malignant peripheral nerve sheath tumor and adenoid cystic carcinoma by Roy et al.\textsuperscript{13} and Silvester and Barnes,\textsuperscript{14} respectively. In our case, the complete 12th nerve weakness caused by the FOM lipoma fully recovered within 3 months after surgery. It was hypothesized that the temporary weakness may be due to pressure effect of mass on nerve fibers supplying genioglossus muscle as the lesion was adherent to few branches of nerve which were meticulously separated from the tumor during surgery.

In conclusion, FOM lipoma causing hypoglossal nerve palsy is a rare entity and our case is the first one in the literature to report such findings. Otolaryngologists should be aware, particularly when counselling patients, that an FOM mass with associated 12th nerve palsy is not pathognomonic of a malignant diagnosis as it can rarely be due to a benign pathology such as lipoma.

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