VOLUME - 11, ISSUE - 08, AUGUST - 2022 • PRINT ISSN No. 2277 - 8160 • DOI : 10.36106/gjra

Original Research Paper

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"A CASE REPORT OF HEMANGIOMA OF RIGHT CHEEK AT OUR HOSPITAL"

Dr. Gaurav Ahluwalia*

Consultant ENT Surgeon, Ahluwalia Hospital, Raipur, Chhattisgarh. *Corresponding Author

ABSTRACT

Background: Hemangioma is the most common benign tumor of a vascular origin, and is characterized by the abnormal proliferation of blood vessels. Intramuscular hemangioma (IMH) usually involves the skeletal muscles of the trunk or limbs, but rarely occurs in the head and neck region. **Case Details:** A 19-year-old girl was referred for the evaluation and management of painful swelling of the right cheek that had gradually increased in size over a 2 month. The examination revealed a palpable firm nodular mass. Reddish-blue buccal mucosa colour was observed with an aciniform shape. Preoperative CECT of PNS and face showed heterogeneous ill-defined minimal enhancing soft tissue visualised anterior to the right masseter muscle and extending deeper into masticator space and infratemporal fossa. Few small calcifications are seen suggestive of Phlebolith. Features suggestive of Haemangioma. The other findings include deviated nasal septum to left, mild mucosa hypertrophy of left inferior turbinate and incidental finding of bony cleft palate on the left side. Surgical resection under general anaesthesia was performed via the intraoral approach. The mass and phleboliths were extracted successfully. A histopathological examination confirmed the diagnosis of IMH. In conclusion, clinicians should be aware of the possibility of IMH in cases of a palpable mass with multiple nodules deep within the muscle in the buccal cheek. **Conclusion:** Clinicians should be aware of the possibility of IMH in cases of a palpable mass with multiple nodules deep within the muscle in the buccal cheek.

KEYWORDS : hemangioma, intramuscular hemangioma, phlebolith, right cheek and palpable firm nodular mass

INTRODUCTION

Hemangioma is considered a benign vascular lesion of congenital origin, developing from abnormally differentiated blood vessels [1]. The exact cause is unknown, but excessive muscle contraction, repeated trauma to the lesion, and hormonal factors seem to play a role [2]. There is reportedly no gender predilection or racial factor [3] and it is usually detected in the first 3 decades of life [4].

Intramuscular hemangioma (IMH) is a relatively rare lesion, constituting less than 1% of all hemangioma cases, and is usually located in the skeletal muscles of the trunk or limbs [5]. IMH most frequently involves the pelvic region, but 10% to 15% occur in head and neck regions, generally in the masseter, sternomastoid, and trapezius muscles [2]. Among these, the masseter muscle is the most frequent location, comprising approximately 36% of all head and neck IMH cases [6].

IMH in the masseter is described as a slowly enlarging mass with varied size, rubbery and relatively firm texture, and fluctuated with palpation perpendicular to the long axis of the muscle fibers [5]. It becomes prominent with muscle contraction, and more than a half of patients complain of associated pain with preauricular or buccal swelling [7]. Clinically, degree of the pain correlates with speed of expansion, pressure on surrounding anatomic structures, and thrombosis [2]. Sometimes, abrupt onset of facial palsy is reported, probably resulting from an enlarged lesion inducing pressure on the facial nerve [8].

Standard radiographs are a simple diagnostic method for IMH since they can detect phleboliths, which are highly suggestive of hemangioma9. Other diagnostic imaging modalities such as computed tomography (CT), magnetic resonance imaging (MRI), and ultrasound can be used to enhance the accuracy of a preoperative diagnosis. Of these, MRI is considered the most reliable imaging tool for tissue characterization and identification of the extent of IMH [10].

In this report, we presented a patient with IMH occurring in the right buccal cheek related to the adjacent muscles. Diagnosis was confirmed through clinical examination and preoperative MRI, and surgical resection was conducted. Also, optical microscope examination was conducted on the extracted specimen and internal phleboliths to determine their histopathologic features.Written informed consent was obtained from the patient for publication of this report and any accompanying images.

CASE REPORT

A 19-year-old female patient reported to ENT OPD of Our hospital with presenting complaints of painful swelling in the right cheek gradually increasing in size since 2 months. There were no other symptoms (e.g., numbness, dysphagia, stridor, speech, or masticatory difficulties) due to the lesions. There was no history of trauma, fever, or similar swelling elsewhere in the body. Past medical history revealed the patient was healthy and had no systemic diseases nor deleterious habits.

On general physical examination, the patient was moderately built and conscious, with a normal gait. His vital signs were within normal limits. Battery of investigations were done pre-operatively, all the routine blood investigations were within normal limits. Preoperative CECT of PNS and face showed heterogeneous ill-defined minimal enhancing soft tissue visualised anterior to the right masseter muscle and extending deeper into masticator space and infratemporal fossa. Few small calcifications are seen suggestive of Phlebolith. Features suggestive of Haemangioma. The other findings include deviated nasal septum to left, mild mucosa hypertrophy of left inferior turbinate and incidental finding of bony cleft palate on the left side. Surgical resection under general anaesthesia was performed via the intraoral approach. The mass and phleboliths were extracted successfully. A histopathological examination confirmed the diagnosis of IMH. After pre-operative surgical fitness, the tumour was excised under local anaesthesia it was measuring more than 10 cm.

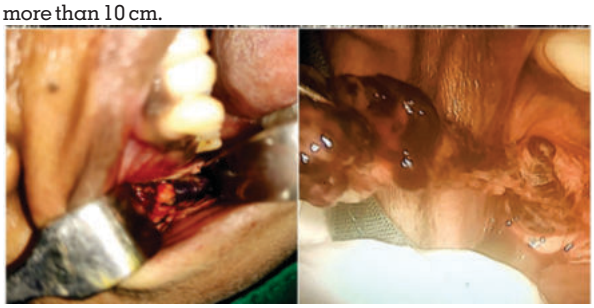

Figure 1: Shows Preoperative View

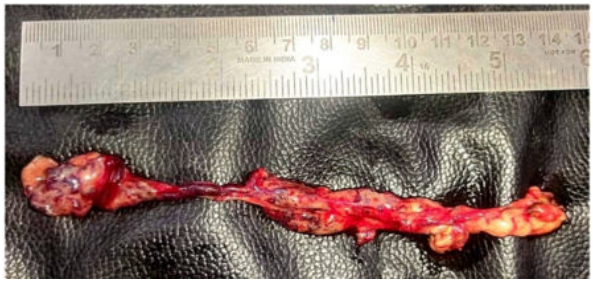

Figure 2: Shows Excised Mass

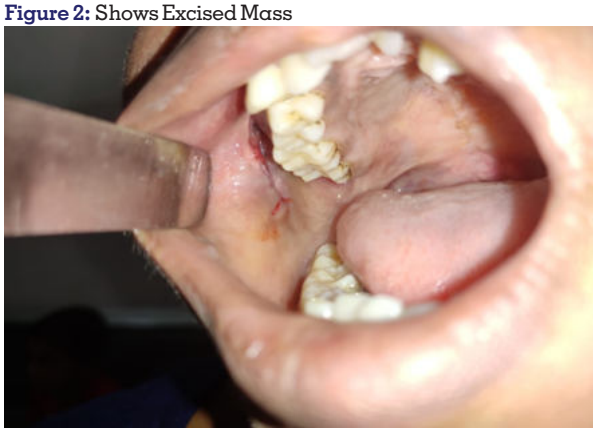

Figure 3: Shows Postoperative View

DISCUSSION

It is commonly known that skin overlying a hemangioma shows increased vascularity, giving the lesion reddish-blue discoloration or even hyperthermic change. Also, thrills, compressibility, or bruits can be present in hemangioma, though they are rare [1]. In many cases, the thickening and surrounding fibrosis of the superficial muscular layer around IMH hide these clinical signs5. The lack of clear clinical findings and the rare incidence of this lesion complicate the diagnosis. Definitive preoperative diagnosis has been reported in only about 8% of cases [11]. Also, other pathologic lesions are usually confused in the differential diagnosis, like neoplasms in parotid gland, benign muscular hypertrophy especially related to the masseter, or congenital cysts [12].

Thus, various radiologic investigations should be performed to aid in diagnosis of IMH. Among them, CT scanning with contrast is extremely sensitive in detecting calcification and could be helpful for confirming presence of phleboliths and could give an indication of the anatomical origin of the tumor [13]. For better soft tissue detail, MRI provides images with good soft tissue definition of both normal anatomy and pathology. It is sensitive to blood flow within vessels and is used to determine the nature and extent of vascular malformations including hemangioma. Generally, IMH shows characteristically high signal intensity as a brighter lesion on T2-weighted images than T1-weighted images due to the increased free water present in stagnant blood in the vessels [10].

The incidence of phleboliths within IMH is approximately 25% of cases and usually causes no symptoms [14]. According to a previous study, tortuous vascular channels of the IMH produce thrombi by slowing of organized peripheral blood flow. First, calcification of the thrombus occurs, which then becomes the core of the phleboliths. The fibrinous component including platelets attaches to this core and is followed by calcification. Repetition of this course results in phlebolith growth5. Radiologically, the cores of phleboliths seem to be radiopaque or radiolucent, and a series of this process cause an onion-like or concentric rings pattern [15].

The treatment of hemangioma is based on clinical factors such as size, location, accessibility, depth of invasion, age, and cosmetic appearance. Many non-surgical treatments have been suggested tocure or control IMH; for example, cryotherapy, radiation therapy, arterial ligature, isolated embolization, sclerosing agents, or steroid injection. However, the results of these methods are controversial, so they are recommended only when surgical extirpation is contraindicated [7]. The best treatment for IMH is complete removal of the tumor including phleboliths with adjacent normal muscular tissue because of its infiltrative nature [16]. If needed, total excision of the masseter muscle has been recommended [15]. Rossiter et al. and Addante and Donavan agree with this idea that optimal treatment of IMH is complete surgical extirpation. Even with this surgical approach, minor feeding vessels and residual tumor can be responsible for recurrence. The local recurrence rate is approximately 18%, with 7% recurring more than once [3,17,18].

Excision of a large lesion can result in severe hemorrhage. Preoperative arterial embolization and injection of sclerosing agents into the lesion are advised to solve this problem and help diminish blood loss [19]. Ligation of feeding vessels helps to minimize blood loss, and especially in cases of IMH in the lower portion of the masseter, tying the masseteric branch of the facial artery will help [16]. In addition, Ichimura et al. [16] posited that securing a wide surgical field to expose the whole tumor and adjacent anatomic site could enable surgery with less bleeding.

Some approaches to surgical resection of IMH in the head and neck have been described. Superficial parotidectomy via preauricular incision provides good exposure but requires facial nerve dissection7. If the tumor exists anterior to the masseter muscle and close to the oral mucosa, an intraoral approach will be possible. This procedure is done with mucosal incision anterior to Stenson's duct and allows good visualization of the lesion and direct tumor excision with local bleeding control. Also, the patient can avoid any visible scar or facial nerve damage [2].

CONCLUSION

Clinicians should be aware of the possibility of IMH in cases of a palpable mass with multiple nodules deep within the muscle in the buccal cheek.

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