ORIGINAL RESEARCH PAPER
Volume-8 | Issue-10 | October - 2019 | PRINT ISSN No. 2277 - 8179 | DOI : 10.36106/ijsr
INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

A RARE CASE OF CENTRAL HEMANGIOMA IN MANDIBLE: CASE REPORT

Dental Science

Dr. Anuj Mathur 3rd year resident Department of Oral and Maxillofacial Surgery Mahatma Gandhi Dental College and Hospital, Jaipur, Rajasthan, India

Dr. Vikas Kunwar Singh* Prof. Department of Oral and Maxillofacial Surgery Mahatma Gandhi Dental College and Hospital, Jaipur, Rajasthan, India *Corresponding Author

Dr. Ruchika Tiwari Prof. Department of Oral and Maxillofacial Surgery Mahatma Gandhi Dental College and Hospital, Jaipur, Rajasthan, India

Dr. Alankrita Sisodia 2nd year resident Department of Oral and Maxillofacial Surgery Mahatma Ghandhi Dental College and Hospital, Jaipur, Rajasthan, India

ABSTRACT

Intraosseous hemangiomas are one of the rarest lesions of jaw bone with an incidence rate of 0.5 -1% with the gender predilection being 2:1 (female: male) and shows it's peak incidence in fifth and sixth decade. Most common site for occurrence of hemangiomas are vertebral column and skull. Cutaneous hemangiomas are most common however intraosseous hemangiomas in mandibular site are a rare condition. In this case, a 30 year old male presented with pain in right side of face and difficulty in mouth opening. On extra oral examination, swelling and ecchymosis around right eye with subconjunctival a hemorrhage was present along with step deformity over right infraorbital region. Face was bilaterally asymmetrical as there was a bony swelling in left lower facial region. CT scans (3D view) of patient showed right zygomatico-maxillary complex fracture and bony hyperplasia in the left mandibular body region. This paper presents a rare case of central hemangioma diagnosed accidentally in a patient who suffered from right zygomatico-maxillary complex fracture.

KEYWORDS

Case, Central, Hemangioma, Mandible.

INTRODUCTION

Central hemangioma is defined as a benign, congenital, vascular and self-involuting tumor of endothelial cells.[1-3]

There are many theories of its origin, one of them proposed by Shira and Guernsey[4] which states that, it can be a benign neoplasm due to proliferation of endothelium which further differentiates into blood vessels. Other theory given by Sadowsky D et al[5] states that it is a hamartoma that results from the proliferation of mesoderm and undergoes endothelial differentiation and subsequently, is canalized and vascularized.

Hemangiomas have been classified by the International Society for the study of Vascular Anomalies (ISSVA) (Figure 1) on the basis of clinical appearance, radiological features, pathological features and biological behavior[6-8] Various studies[9-10] state that incidence rate of Hemangioma according to gender is 2:1 (female: male), with peak incidence in fifth and sixth decade. Most central hemangiomas are the cavernous type (large-calibre vessels), but can also be the capillary type (small calibre vessels).[11] Most common site for occurrence of a hemangioma are vertebral column and skull.[12-13] As reported in a study by Oliveira GG et al[1],cutaneous hemangiomas are common however intraosseous hemangiomas in a mandibular site are a rare condition.

When occurrence is seen in mandible, accurate radiological assessment and biopsy can confirm the diagnosis. In the mandible, the frequency of occurrence is greatest in the body region, followed by condyle.[14]In the present case report a rare case of central Hemangioma in the left body region of mandible is reported.

Vascular tumors	Vascular malformation
Infantile hemangiomas	Slow (low) flow
Focal	Capillary malformations (CM)
Segmental	Port-wine stain
Indeterminate	Telangiectasia
Congenital hemangiomas	Angiokeratoma
Rapidly involuting congenital Hemangioma (RICH)	Venous Malformations (VM)
Non involuting congenital Hemangioma (NICH)	Common sporadic VM
Tufted angioma	Bean syndrome
Pyogenic granuloma	Familial cutaneous and mucosal VM (VMCM)
Dermatologic acquired vascular tumors	Glomuvenous Malformation (GVM) or Glomangioma
Kaposiform hemangioendothelioma	Maffucci syndrome
Spindle cell hemangioendothelioma	Lymphatic malformation (LM)
Hemangioendothelioma NOS	Lymphedema
	Lymphangioma circumscriptum
	Lymphangioma cavernosum
	Lymphangioma cysticum
	Fast (high) flow
	Arterial malformation (AM)
	Arteriovenous fistula (AVF)
	Arteriovenous malformation (AVM)
	Complex combined vascular malformations

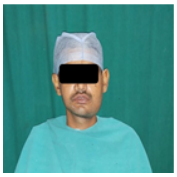
NOS: Not otherwise specified

(According to Modified International Society for the Study of Vascular Anomalies; ISSVA)

Case Report

30 year old male patient, reported to OPD in the Department of Oral and Maxillofacial surgery, Mahatma Gandhi Dental College and Hospital. Patient gave a history of road traffic accident due to fall from bike. Patient complained of pain in the right side of face, difficulty in mouth opening. He had swelling and ecchymosis around the right eye with sub conjunctival hemorrhage. Step deformity was present over the right infraorbital region.

Face was bilaterally asymmetrical with fullness and hyperplasia of the left body of mandible (Figure 2). Patient gave a history of gradually increasing swelling in the left mandibular body region since 12 years but the swelling was absolutely symptomless. Patient had undergone CT scans (computerized axial tomography) of the face, 8 years back and was advised for a surgical removal of the bony mass (Figure 3).



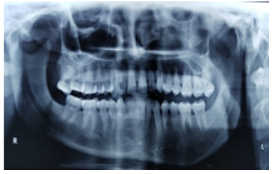


Figure 2: Pre-operative photo of patient
Figure 3: Pre-operative Orthopantomogram (OPG) of patient

Diagnosis:
CT scans (3D view) (Figure 4) of the patient showed right zygomatico-maxillary complex fracture and bony hyperplasia in the left mandibular body region. Aspirational Biopsy of the lesion was done in which blood was encountered. Later, in the CT Angiography of the lesion a low flow intraosseous vascular malformation was detected.

Patient was operated under general anesthesia and marginal resection of the left body of mandible was done along with ligation of the encountered blood vessels. Patient was also operated for right zygomatico-maxillary complex fracture where open reduction and fixation was performed using a Transconjuctival approach.(Figure 5)

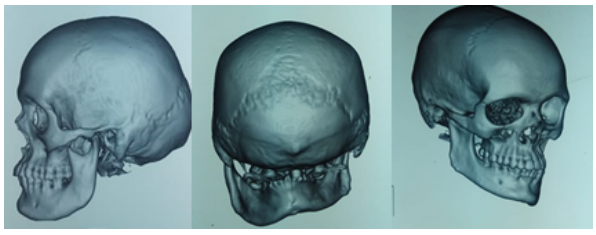


Figure 4: CT scans (3D view) of patient

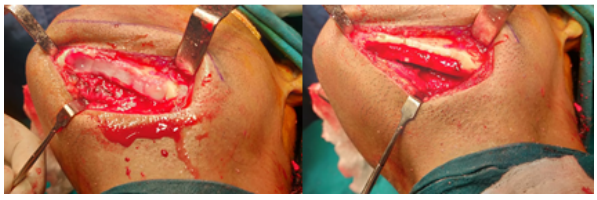


Figure 5: Intra op Picture

Figure 6 : Post-operative photographs of patient

Histopathology :

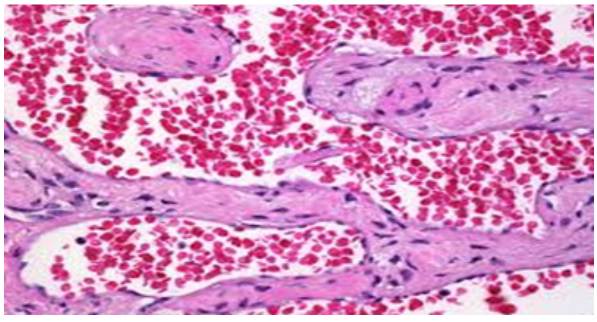


Figure 7: Histopathologic view of cavernous hemangioma

DISCUSSION

In this case report a patient diagnosed with central hemangioma in the left lower border of mandible is presented. As compared to this case, in one of the studies, it was reported that the highest frequency of the occurrence of Central Hemangioma is in the body of mandible. While in a study by Kamath JS et al[16] it is reported to be2 - 3 cm below the angle of the mandible on the right side. In a study by Chetan BI et al[1], central hemangioma was present in the left mandibular body region. In a study by Jain S[18] et al the lesion was present in the right angle of mandible region , extending up to the temporo mandibular joint (TMJ) antero-posteriorly.

In the present study, the patient does not show any symptoms but only a sign of swelling on the left lower mandibular border. Similar case findings were present in a study by Jain Set al[18]in which small painless swelling was reported which increased gradually. In a study by Kamath JS et al[16] and ThankappanS et al[19] similar findings to the present study were found with diffuse swelling and no associated symptoms. In various studies[11, 20, 21] it was stated that central hemangioma may be associated with discomfort, pulsations, bleeding, bluish discoloration, mobile teeth, derangement of the arch form or accelerated dental exfoliation, and agenesis of teeth.

In past studies[9-10] it was reported that the peak incidence of Central Hemangioma is in fifth and sixth decade. In contrast to this in the present study the patient was of 30 years of age. Same results were seen in study by Elf B et al[22]in a patient of 28 years of age. While in a study by DhimanNK[23]a patient with Central hemangioma was of 14 years. Study by ThankappanSet al[19] in which patient was of 16 years. In a study by Kamath JS et al[16] patient is of age 17 years. As shown by studies[9-10] in past prevalence of central hemangioma was twice in females than in males. In contrary to these studies, in the present study central hemangioma was present in 30 year old male. Same results were seen in the study by Kamath JS et al[16], ThankappanS et al[19], Dhiman NK[23] in which patients were male.

Angiography, scintigraphy, and MRI have provide to be useful as a diagnostic tool where clinical andradiographic characteristics suggest a diagnosis ofhemangioma.[24] while in the present study diagnosis was made by using 3D CT scans.

CONCLUSION

Central Haemangioma presents as an asymptomatic swelling which gradually increases over the time. Due to its asymptomatic nature, step by step approach towards a definite diagnosis should be made by excluding other bony lesions of the same characteristics. Microscopic examination along with CT Angiography is the gold standard for making a definitive diagnosis. Treatment modality should be carefully planned based upon patient's age, clinical features, extent of the lesion and systemic medical condition. In the above mentioned case, central hemangioma was seen as an accidental finding in the patient suffering from right zygomatico-maxillary complex fracture.

REFERENCES

1. Gómez Oliveira G, García-Rozado A, Luaces Rey R. Intraosseous mandibular haemangioma: A case report and review of the literature. Med Oral Patol Oral Cir Bucal 2008;13: E496-8.
2. Edgerton MT. Steroid therapy of hemangioma. In: Williams HG, editor. Symposium on Vascular Malformation and Melanotic Lesions. St. Louis, MO, Mosby; 1983. p. 74-83.
3. Shafer WG, Hine MK, Levy BM. A Textbook of Oral Pathology. 4th ed. Philadelphia: W.B. Saunders Company; 1983. p. 154-7.
4. Shira RB, Guernsey LH. Central cavernous hemangioma of the mandible: Report of case. J Oral Surg 1965;23: 636-42.
5. Sadowsky D, Rosenberg RD, Kaufman J, Levine BC, Friedman JM. Central hemangioma of the mandible. Literature review, case report, and discussion. Oral Surg Oral Med Oral Pathol 1981;52: 471-7.
6. Enjolras O, Wassef M, Chapot R. 1st ed. New York: Cambridge University Press; Color Atlas of Vascular Tumors and Vascular Malformations. 2008: 2-4.
7. Redondo P. Vascular Malformations [I] Concept, Classification, Pathogenesis and Clinical Features. ActasDermosifiliogr. 2007; 98:141–58.
8. Restrepo R, Palani R, Cervantes L, Duarte A, Amjad I, Altman N. Hemangiomas revisited: The useful, the unusual and the new. PediatrRadiol. 2011;41: 895–915.
9. Alves S, Junqueira JL, de Oliveira EM, Pieri SS, de Magalhães MH, Dos Santos Pinto D Jr, et al. Condylar hemangioma: Report of a case and review of the literature. Oral Surg Oral Med Oral Pathol Oral RadiolEndod 2006; 102:e23-7.
10. Williams HJ, Wake MJ, John PR. Intraosseoushaemangioma of the mandible: A case report. PediatrRadiol 2002;32:605-8.
11. Nagpal A, Suhas S, Ahsan A, Pai K, Rao N. Central haemangioma: Variance in radiographic appearance. DentomaxillofacRadiol 2005;34:120-5.
12. White SC, Pharoah MJ. Oral Radiology, Principles and Interpretation. 5th ed. Mosby Elsevier publisher, 2004;445-9.
13. Jindal SK, Sheikh S, Singla A, Puri N. Role of radiology in central hemangioma of jaws. J ClinExp Dent 2010; 2:76-8.
14. Marwah N, Agnihotri A, Dutta S. Central hemangioma: An overview and case report. Pediatr Dent 2006; 28:460 6.
15. Availableon: https://www.cdc.gov/masstrauma/resources/gcs.pdf. Accessed on 15.05.2019.
16. Kamath JS, Kini R, Sangeetha R, Murukan S, Naik V, Madiyal A. Central Hemangioma Involving the Mandible: A Rare Condition: Case Report and Review of Literature. TJFMPC, 2018;12(1): 72-76.
17. Chetan BI, Sharmila, Shruthi DK, Karthik B. Diagnostic and surgical aspects of central hemangioma of mandible: a surgical approach for the reconstruction of mandible. J Int Oral Health. 2015 Jan;7(1):56-8.
18. Jain S, Singaraju S, Singaraju M. Central hemangioma: A case report and review of literature. J Indian SocPedodPrev Dent 2016;34:87-91.
19. Thankappan S, Thomas V, Kumar NR, Sharafudeen K P, Nair S. Central hemangioma of mandible presenting as massive radiolucency. J Indian Acad Oral Med Radiol 2009;21:42-5.
20. Schajowicz F, Rebecchini AC, Bosch-Mayol G. Intracorticalhaemangioma simulating osteoid osteoma. J Bone Joint Surg Br 1979;61:94-5.
21. Bunel K, Sindet-Pedersen S. Central hemangioma of the mandible. Oral Surg Oral Med Oral Pathol 1993;75:565-70.
22. Elif B, Derya Y, Gulperi K, Sevgi B. Intraosseous cavernous hemangioma ın the mandible: A case report. J ClinExp Dent. 2017;9(1):e153-6.
23. Dhiman NK. Cavernous hemangioma of mandible: A rare case report. J Oral MaxillofacRadiol 2015;3:83-7.
24. Ahmed J, Mathur H, Tripathi P, Goel S, Singh MP. Intraosseous hemangioma of the mandible: A case report. Part I. Int J Acad Res 2011;3:163-6.