

Intraosseous Hemangioma of the Mandible

A case report and a review of the literature of the intraosseous hemangioma of the facial bones

I do not have any financial disclosures or conflicts of interest

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Clinical course of case patient

75yo woman with h/o HTN, HLD, GERD, CKD III who presented to her dentist with dental pain, and was incidentally found to have a lesion on OPG.

Referred to Emory OMFS. CT suggested low-flow vascular lesion.

Biopsy attempted under general anesthesia in the OR aborted due to voluminous, pulsatile bleeding.

CTA revealed regions of intracranial arterial stenosis and a lucent lesion in the right mandibular body, suggestive intraosseous hemangioma without hypervascular nature. An MRI gave the impression of an IH.

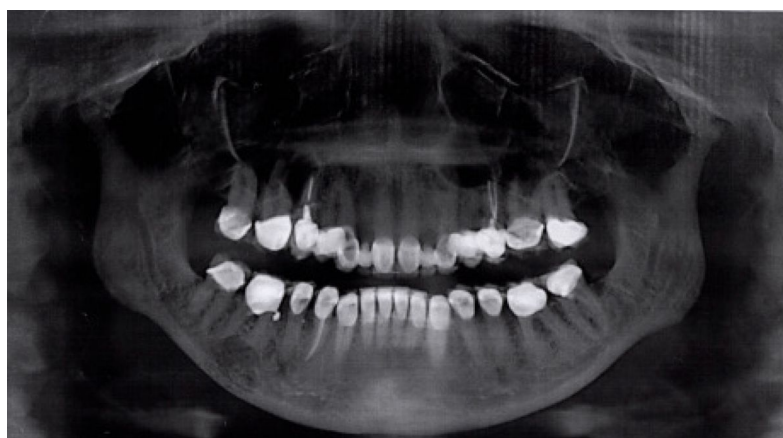
Definitive treatment was pursued knowing that the lesion was vascular in etiology, with segmental mandibular resection with reconstruction with a fibula free flap.

Pathology report:

- Submandibular gland and level 1 nodes: unremarkable gland & LN
- Mandibulectomy specimen: 4.9cm Intraosseous hemangioma

Learning objectives:

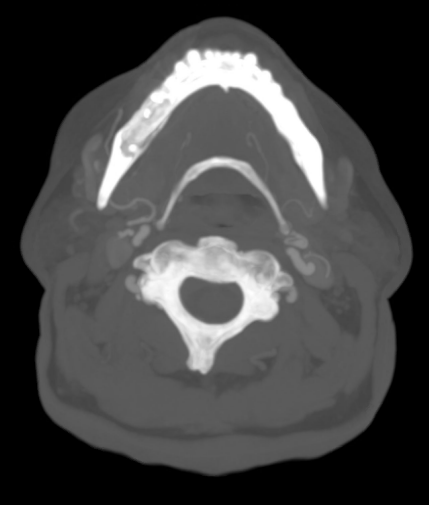
1. Explore the clinical, radiologic, and histologic presentations of the rare intraosseous hemangioma (IH) of the facial bones.
2. Discuss the methods of diagnosis and management of this lesion.



Top: September 2014, bottom: January 2019. Note interval size increase



CT w/ contrast



CTA w/o contrast



Specimen

Epidemiology: IH represents 0.5-1% of intraosseous tumors.

Female to male presentation of 3:1, and often present in the 4th/5th decade of life; however they have been found in an age range of 2 to 85 years.^{1,2}

History:

Often an incidental finding.

Some present with a history of trauma to the region, but most in the literature report no history of trauma.³

The IH is slow-growing, unlike the classic soft tissue hemangioma of the pediatric patient.

Clinical presentation: Asymptomatic or present as an expansile lesion/swelling, bruit/pulsation, pain, numbness, locally destructive causing regional functional abnormalities (ej: dental, nasal, orbital, sinus involvement).

Radiographic: Non-specific: solitary radiolucent lesion or with sunbursting, honeycombing, soap-bubbling, or multiloculated. Rarely, it can also be opaque.^{2,4}

Differential diagnosis: AVM, Langerhaan's cell histiocytosis, eosinophilic granuloma, fibrous dysplasia, multiple myeloma, dermoid cyst, osteosarcoma, and osteoid osteoma, etc

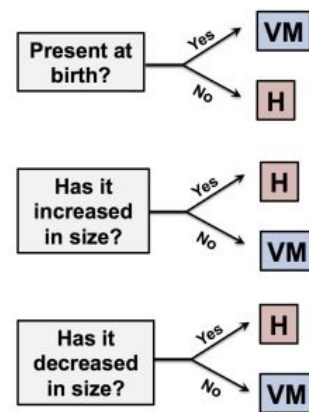
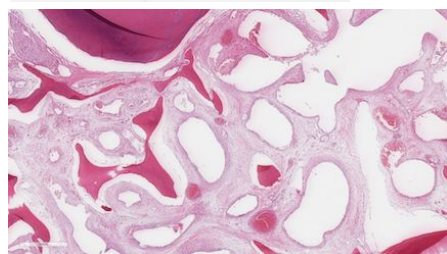
Histologic classification: cavernous, capillary, mixed, and scirrhous types

Most IH of the facial bones have been found to be cavernous.⁵

Classification of vessel origin: Central (medullary) vs peripheral (periosteal)⁶



Stained slides of the lesion taken during resection



Warner M, Suen JY. (2009). Hemangiomas and Vascular Malformations of the Head and Neck. Canada: J. Wiley, Inc.

Management

Asymptomatic with no esthetic concerns: Monitor for growth

Cosmetic concern: Resection and reconstruction if possible, partial resection if possible and complies with reconstructive goals⁶

Symptomatic: Surgical resection with a healthy margin, with or without preoperative embolization^{1,3,4,6,8-10}

Preoperative embolization or ligation of feeding vessels are options⁶

Sclerotherapy and radiotherapy are now less favored due to adverse effects, unpredictability, and the availability of other options^{10,15}

Embolization by itself is also a palliative, non-curative measure on its own¹⁰

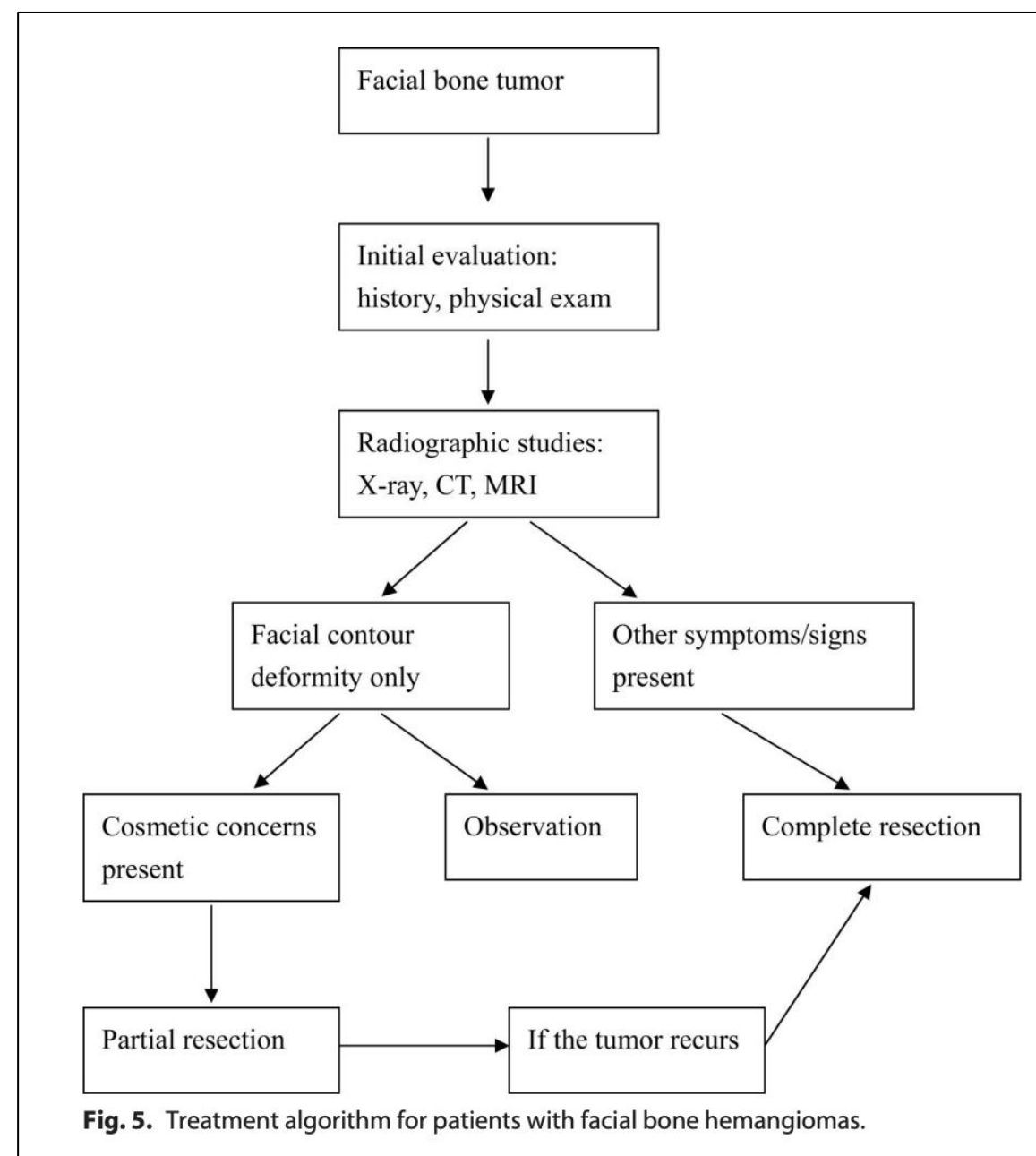


Fig. 5. Treatment algorithm for patients with facial bone hemangiomas.

Cheng, Nai-Chen, Lai, Dar-Ming, Hsie, Mon-Hsian, Liao, Shu-Lang, Chen, Yueh-Bih. Intraosseous Hemangiomas of the Facial Bone. *Plast Reconstr Surg.* 2006;117(7):2366-2372.

Conclusion

1. The IH has variable clinical, radiological, and histologically, with no current evidence of correlation amongst features.
2. The identification of the vascular nature of the lesion is essential in mitigating bleeding risk, especially prior to biopsy.
3. The need for angiography/MRI and pre-operative embolization/ligation has been controversial amongst authors.
4. Management is dependent upon the clinical symptoms and progression.

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