REVIEW ARTICLE

Article received on August 25, 2016 and accepted for publishing on December 15, 2016.

Clinical features of oral angiolipoma – A review

Shishir Ram Shetty[1], Sura Ali Ahmed Foud Al- Bayati[1], Shakeel Santerbennur Khazi[1], Sesha Reddy Manchala[1]

Abstract: *The aim of this paper was to analyze the data obtained from case reports of oral angiolipoma in terms of age and gender distribution, site of occurrence, nature (intraosseous/ extraosseus) and infiltration. an internet search using Google scholar and Pubmed engine was carried out using search terms 'angiolipoma' and 'oral'/'mouth'. English literature full text articles and abstracts of oral angiolipoma obtained from 1976-2016 were analyzed for clinical data and presented in this article.*

Keywords: *angiolipoma, oral, mouth*

INTRODUCTION

Angiolipoma (AL) is rare variant of lipoma which consists of both fatty and vascular elements. [1] ALs were first describe by Bowen in the year 1912. [2] The first published report of an oral angiolipoma was by Davis et al in 1976. [3] Angiolipomas account for 5 to 17% of all the lipomas occurring in the oral cavity, lipomas themselves account for 1-5% of all oral benign tumors [1]. Since oral angiolipoma is rare benign tumor, published reports are mainly restricted to case reports. [4,5]

CLASSIFICATION OF ANGIOLIPOMAS

Based on their studies Gonzalez-Crussi et al. classified angiolipomas into infiltrating and non-infiltrating. angiolipomas.[6] The non-infiltrating angiolipomas are encapsulated, whereas infiltrating angiolipomas lack this capsule.[6] Among the two, infiltrating angiolipoma (IAL) is a rare lesion typically characterized by infiltration of the surrounding structures, especially skeletal muscle.[7] Based on whether the angiolipoma occur in bone or soft tissues they can be classified as intra-osseous or extra-osseous types.[8] The intra-osseous variety is extremely rare in comparison to the extraosseus variety. [8,9]

METHODOLOGY FOR ANALYSIS OF THE CASE REPORTS

An analysis of the data obtained from case reports of oral angiolipoma in terms of age and gender distribution, site of occurrence, nature (intraosseous/ extraosseus) and infiltration. An internet search using Google scholar and pubmed engine was carried out using search terms 'angiolipoma' and 'oral'/'mouth'. Full text and abstracts of oral angiolipoma cases obtained from 1976-2016 were analyzed. (Table 1)

GENDER PREDICTION OF ORAL ANGIOLIPOMA

Fregnani ER et al (2003) stated that male to female

[1] College of Dentistry, Gulf Medical University, Ajman, United Arab Emirates

ratio from these intraoral angiolipomas was 1.4:1, in contrast to cutaneous angiolipomas and intraoral lipomas as a group, which either shows no sex predilection or a slight female predilection.[10]

Table 1: Clinical data obtained from full texts and abstract of oral angiolipoma case reports published from the year 1976-2016

Researcher	Year of publication	Type infiltrating/ non-infiltrating	Gender	Age group	Site	Extraosseous/ intraosseous
Davis et al [3]	1976	-	-	-	hard palate	
Polte HW et al [30]	1976	-	-	-	mandible	intraosseous
Weitzner et al [35]	1978	-	male	4-year-old	cheek	
Campos et al [34]	1980	-	-	-	cheek	
Lewis DM et al [31]	1980	-	-	-	mandible	intraosseous
Brahney CP et al [21]	1981	-	-	-	tongue	
Flaggert et al [19]	1986	-	female	8-year-old	palate	
Reilly et al [15]	1988	-	female	infant	parotid	
Lin SC et al [17]	1989	-	male	49-year-old	tongue	
Manganaro AM et al [32]	1994	-	-	-	mandible	intraosseus
Ali MH et al [36]	1996	-	-	-	cheek	
Sugiura J et al [16]	1999	infiltrating	-	-	muco-buccal fold	
Ida-Yonemochi H et al [12]	2005		male	69-year-old	buccal mucosa	
Altug HA et al [11]	2009	non-infiltrating	male	22-year-old	cheek	
Gerard N et al [20]	2009	-	-	-	upper lip	
Thakur B eta al [37]	2010	non-infiltrating	female		cheek	
Palaia G et al [38]	2011	non-infiltrating	female	66-year-old	cheek	
Yanase S et al [13]	2011	non infiltrating	male	76-year-old	cheek	
Sah K et al [4]	2012	non infiltrating	female	9-year-old	upper lip	
Hemavathy S et al [9]	2012	-	female	21-year-old	mandible	intraosseus
Silva-Junior GO et al [5] 2 cases	2013 2013	non-infiltrating non-infiltrating	male female	57-year-old 29-year-old	cheek masseteric region	
Shahi AK et al[14]	2014	infiltrating	female	9-month-old	cheek	
Mohiuddin SA et al [39]	2014	non-infiltrating	male	46 year old	mandibular buccal vestibule	
Ohnishi Y et al [7]	2015	infiltrating	female	74 year old	lower lip	
Chandrasekaran D et al [1]	2016	non infiltrating	female	55-year-old	palate	

However most of the other researchers have stated that no gender predilection. [1,7,11,12] According to the data obtained from the analysis of the reports, seven cases were in males, ten cases occurred in females. However we could not obtain enough data regarding gender in 9 case reports.

AGE PREDILECTION OF ORAL ANGIOLIPOMA

Fregnani ER et al (2003) stated that the mean age of the affected patients was 37 years (range, 4 to 81 years),which was in contrast to other variants of lipomas occurring in the oral cavity that occur in the 50-60 year age group.[10] On analysis of the available case reports we found that occurrence of oral angiolipoma ranged from a 4-month-old to 76-year-old individual.[13,14,15] Infiltrating angiolipomas are usually diagnosed in older individuals.[7, 16, 17, 18]

SITE PREDILECTION OF ORAL ANGIOLIPOMA

Angiolipoma have a prediction of occurrence in the

buccal mucosa, followed by lip.[5] Occurrence in palate has been reported in few cases.[1,3,19]. Upper lip involvement is more common than lower lip.[4, 20] Few cases have also been reported in tongue.[17, 21] However many of the cases of angilipoma of tongue have the muscle component along with fat and vasculature and thus are termed as angiomyolipoma.[22,23, 24, 25]. The occurrence of angiolipoma in the parotid has also been reported.[15] The benign angilipomas occurring the salivary gland have glandular component apart from adipose and vascular components and are called as sialoangiolipoma.[26] Such cases have been reported to have been observed in parotid and submandibular gland.[27, 28] A rare case of a lipoma with vascular and salivary gland components has been reported in palate also.[29]

INTRAOSSEOUS ANGIOLIPOMA

The first case of intraosseous angiolipoma was by Polte in the year 1976.[30] Mandible is the most common site of occurrence of intraosseous angiolipoma.[9,31,32] Intraosseous lipoma may present a range of clinical manifestations such as swelling, or presence of neurologic signs (hypesthesia or paresthesia) or can be totally asymptomatic.[9] On radiographic examination the lesion usually presents as well-circumscribed radiolucency.[9] Extraction related trauma is believed to be cause for intraosseous angiolipoma of the jaws. Fatty metamorphosis of a central hemangioma and possible variation osteoporotic bone marrow defect are other suspected etiologies. [33]

INFILTRATING ANGIOLIPOMA

Infiltrating angiolipomas lack encapsulation and are typically characterized by infiltration of the surrounding structures.[6,7,14,16] In contrast to the non-infiltrating angiolipomas are well encapsulated. [34,35,36,37,38]. Infiltrating angiolipoma usually occur in older individuals but a report of 9-month-old diagnosed with infiltrating angiolipoma has recently been published.[14] Infiltrating angiolipomas are also associated with symptoms muscular pain and neural deficits.[39,40]

CONCLUSION

In this review we have made an attempt to analyze the clinical features of oral angiolipoma in terms of its gender predilection, site predilection, infiltrative nature, intra/extraosseus types. The information obtained from this review could aid the clinicians in diagnosis this extremely rare benign lesion.

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