LIPOMAS IN THE ORO-FACIAL AND NECK REGION: AN OVERVIEW OF CASES TREATED IN A TEACHING HOSPITAL, NORTH-WEST, NIGERIA.

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ABSTRACT

Background: *Lipoma is a benign tumour of adipose tissue and is one of the most common benign neoplasms of the body. However, its occurrence in the head and neck region is quite rare.*

Objective: *To present the clinical features and management of lipoma of oro-facial and neck region in our Centre.*

Methods: *The study was a retrospective review of case files of patients that were treated in our Centre for lipoma in the oro-facial and neck region for a period of 10 years from January, 2010 to April, 2020.*

Results: *Twenty-nine cases were included in the study. Majority of the cases occurred in the age group 51 – 60 years (n=8, 34.5%), the least affected was age group 21 - 30 (n=2, 6.7%). Twenty-two (76%) occurred in males, while seven (24%) in females at the ratio of 3:1. It was commoner in the cheek (n=8, 27.6%), followed by the submandibular region (n=7, 24.1%) and occurred least in the sublingual region (n=2, 7.0%). Surgical excision was the modality of treatment for all our cases.*

Conclusion: *Lipoma could cause facial disfigurement and surgical excision is the ideal treatment with excellent outcome. Magnetic Resonance Imaging and histopathological investigation are essential in the management of lipoma.*

Keywords*: Lipoma, tumour, adipocytes, oro-facial, neck, cheek.*

INTRODUCTION

Lipomas are most common benign mesenchymal neoplasms found in any location where fat is present, with 15-20% of cases involving the head and neck region and only 1-4% affecting the oral cavity.[1] The first description of an oral lesion was provided in 1848 by Roux in review of alveolar masses, where he referred to it as a yellow epulis.[1] Lipomas are slowly enlarging, with a soft smooth-surface.[2] When it involves the oral mucosa, there is a yellow surface discoloration.[2] The lesion may be pedunculated or sessile and show surface bosselation.[3] Their occurrence in head and neck is rare.[3] Most common age of onset is 5th and 6th decade of life.[4] Males are 10 times more affected than females.[4,5]

The etiology is unknown, possible causes may include: trauma , infection , chronic irritation and hormone alterations.[4] The pathogenesis of lipoma is uncertain but they appear to be more common in obese people.[3] In few cases of lipoma , rearrangement of 12q, 13q, 6p chromosomes have been observed.[5] It accounts for 1 to 4% of benign neoplasms of mouth affecting predominantly the buccal mucosa, floor of the mouth and tongue.[2]

However, the metabolism of lipoma is completely independent of the normal body fat.[3] If the caloric intake is reduced, lipoma do not decrease in size, although normal fat may be lost.[3] Multiple lipoma of the head and neck have been observed in neurofibromas, Gardner syndrome, encephalocraniocutaneous lipomatosis, multiple familial lipomatosis and proteus syndrome.[4] Generalised lipomas have been reported to contribute to unilateral facial enlargement in hemifacial hypertrophy.[5] Lipoma could occur in any part of the body, but commonly in the abdomen, lower limb, thorax and upper limb.[4] It is relatively uncommon in the oro-facial and neck region, therefore we retrospectively review cases treated in the Maxillofacial Clinic, Barau Dikko Teaching Hospital, Kaduna, Nigeria.

METHODOLOGY

This was a cross – sectional study of cases of lipoma in the oro-facial and neck region treated at the Maxillofacial Clinic, Barau Dikko Teaching Hospital, Kaduna, Nigeria, from January, 2010 to April, 2020. The sample frame was thirty-one. The sample size was twenty-nine. Two patients with the

tumour at the occiputs that declined treatment were excluded from the study. Records of patients were obtained from clinic register and operation register. The case folders of the patients were retrieved and analyzed for age, sex, site, clinical features and treatment received. Data were sorted, organized and entered into SPPS version 20(IBM⁰ SPSS⁰ statistics Armonk New York, United States) for analysis. Frequency statistics and cross tabulations were done and chi-squared test was used to test for significance between variables at the critical $p<0.05$.

RESULTS

A total of twenty-nine cases were included. Majority of the cases occurred in the age group 51 – 60 years (n=8, 34.5%), the least affected was age group 21 - 30 (n=2, 6.7%) (Table 1). Twenty-two (76%) occurred in males, while seven (24%) in females at the ratio of 3:1 (Table 2). It is commoner in the cheek (n=8, 27.6%), followed by the submandibular region (n=7, 24.1%) and occurred least in the sublingual region (n=2, 7.0%) (Table 2). Surgical excision was the modality of treatment for all our cases. The outcome of our treatment was satisfactory and no recurrence in cases that were reviewed 6 months and 1 year.

Table 1: Age Distribution of Study Population

AGE GROUPS	NO OF CASES	PERCENTAGE
21-30	2	6.7
31-40	4	14.0
41-50	8	27.6
51-60	10	34.5
61-70	5	17.2
TOTAL	29	100

Table 2 : Site And Sex Distribution of Study Population

SITE	SEX M	SEX F	TOTAL NO OF CASES	PERCENTAGE BY SITE
Forehead	5	-	5	17.2
Sublingual	-	2	2	7.0
Cheek	5	3	8	27.6
Submandibular	6	1	7	24.1
Occiputs	3	-	3	10.3
Posterior Neck	3	1	4	13.8
Total	22	7	29	100

Clinical Features:

Forehead: The tumour was firm, but mobile. This is due to firm scalp overlying the tumour and frontal bone beneath (Figure 1). The sizes ranged from 2cm to 4cm.

Sublingual: common complaints were difficulty with swallowing, speech and mastication. Examination revealed a solitary, well circumscribed, bulging, sessile, smooth, yellowish swelling at the right sublingual region of the floor of the mouth..

Submandibular: Diffuse, solitary in one case, and multiple in two cases, lobulated soft mass 6 X 3 cm in size, with no distinct margins and was not fixed to underlying deeper structures (Figure 2).

Cheek: Diffuse, bulging, soft and freely mobile.

Histopathology Report: Grossly, these tumors were soft, well circumscribed and non-infiltrating. Microscopically, these tissues revealed sheets of mature adipocytes containing clear cytoplasm and eccentric nucleus, with no evidence of cellular atypia or metaplasia . The tumour cells were arranged in lobules with intervening fibrovascular connective tissues septa (Fig.3). Based on the histopathological features, diagnosis of lipoma was made.

Figure 1. Intra-operative process of excision of a forehead lipoma in a 34-years old female

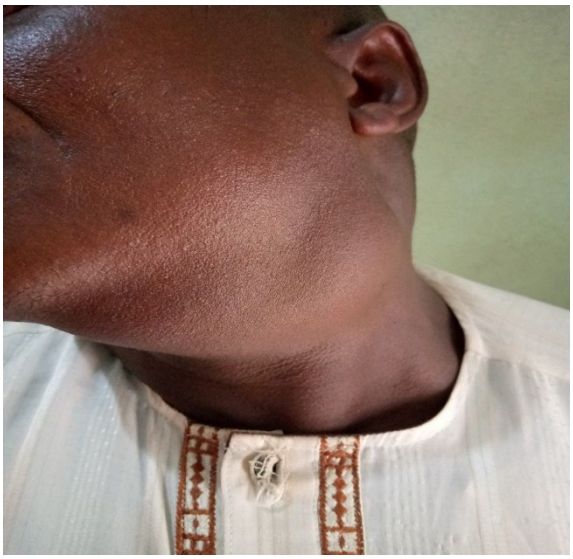

Fig. 2a. A 55-years old man with submandibular lipoma

Fig.2b: The excised tumour

Fig. 2c. Post-operative photograph of case 2

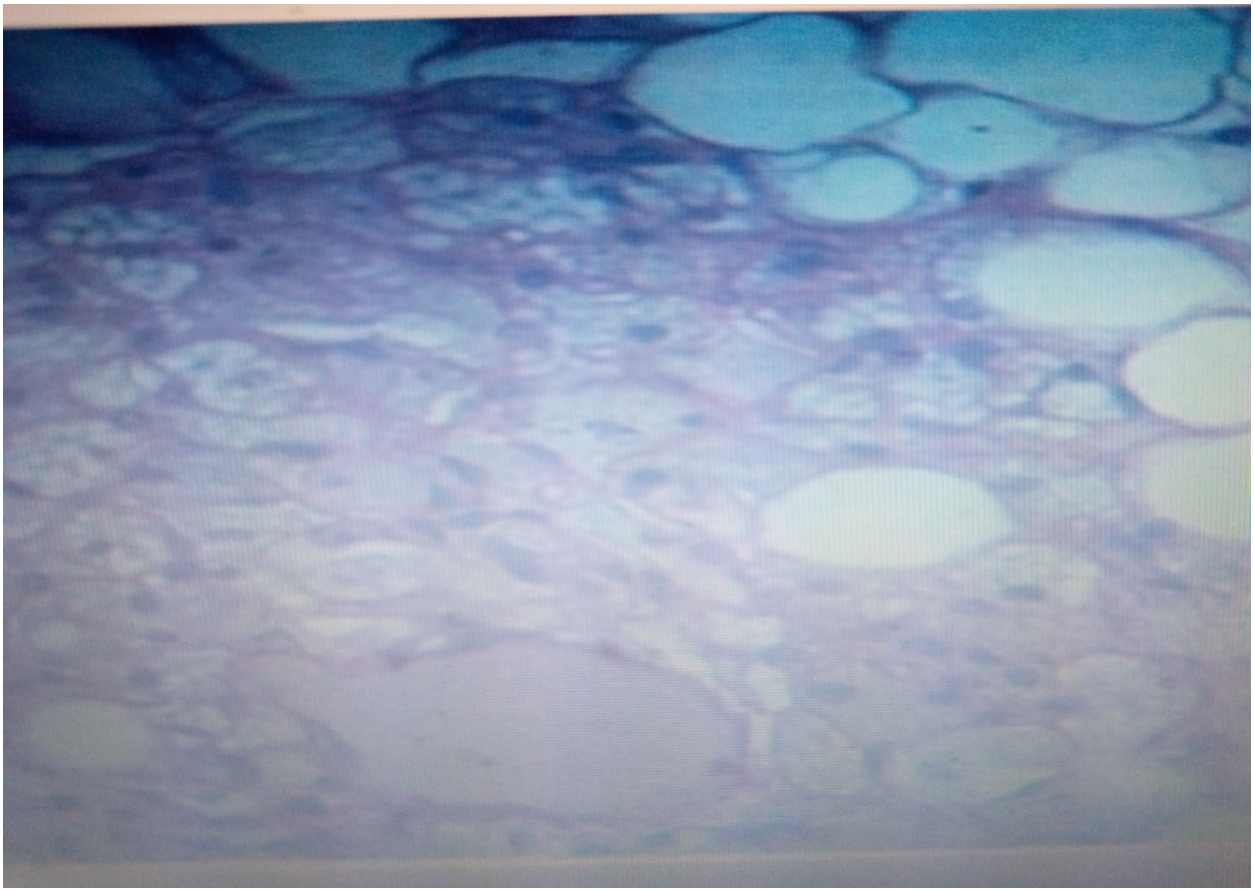

Fig.3: Histology of the excised lipoma

DISCUSSION

Lipomas are slow-growing benign soft-tissue tumours. Although, most lipomas are small sized (<5cm), but giant ones (> 10cm) have also been reported in different parts of the body.[5] They rarely occur in the oro-facial and neck region.[4] In our case series, forehead lipomas were small sized (<5cm), while sublingual, cheek, submandibular and posterior neck had big sizes (4cm- 12cm). It occurs mostly in the fifth and sixth decades of life.[4,5,6] This study showed higher occurrence in the 4th to 6th decade of life. Most common areas of occurrence of lipoma are: the arm, shoulder, back,

legs, forehead and face.[6] The most common location of lipoma on the oro-facial and neck region is the cheek, followed by tongue, buccal mucosa, lip and neck.[7,8] There have been reports of deep intramuscular lipoma in the submandibular region by Abachi *et al.*[5] Furlong *et al*[6] in their study reported that lipomas in the head and neck are common in the parotid region followed by buccal mucosa and lip. This study showed that the tumour occurred most commonly in the cheek, followed by submandibular region, forehead, posterior neck, occiputs and tongue.

Lipomas are seen in male more than female.[7,8] Males are 10 times more affected than females.[4,5] This study showed male to female ratio of 3:1. The small difference in ratio was because this study was limited to oro-facial and neck region. These tumours usually present as a painless, subcutaneous mobile mass. All our cases were either subcutaneous or submucosal and painless. Lipomas are classified histopathologically as: lipoma (solitary or multiple), hibernoma, pleomorphic lipoma, angiolipoma, infiltrating lipoma, lipoblastomatosis and fibrolipoma. They are mostly solitary but rarely seen in multiple. All our cases were solitary lipomas. Lipomas grow slowly and when it is greater than 10cm it is referred to as giant lipoma. A few lipoma presents as a giant lipoma; Gaur *et al*. [7] reported a case of giant cervical lipoma 32cm X 30cm X 19 cm, in another study reported cervical lipoma which is 38cm X 18cm X 15cm in dimension. The biggest of our cases was sublingual lipoma which measures 6cm X 5cm X 3cm in dimension. The aetiology of the tumour is not certain.[9,10] Some studies reported trauma to be one of the causes.[10] Our cases with forehead lipomas gave previous history of trauma, while all others could not give any cause.

Although, lipomas are generally diagnosed by clinical examination, also imaging studies and histopathological examination can aid in establishing the diagnosis.[12] Ultrasonography and histopathological examination aided us in establishing the diagnosis in this study.

Simple lipomas have no site, age, or sex prediction unlike fibrolipomas which are more frequent in the cheek mucosa and show a slight female predominance.[12,13] Angiolipoma is rare, histological subtype seen due to overgrowth of vascular tissue and usually affects adolescent males and subjects in their early 20s.[9] Myxoid lipomas of the oral cavity are rare. Microscopically, these lipomas were well-circumsribed and contained adipocytes of variable size and myxoid areas.[9,10]

Lipomas usually present solitary lesions, but multiple site involvement may be seen in alcoholics, diabetes mellitus and syndromes such as Madelung's disease and Kobberling – Dunningan syndromes.[14] They cause functional deficits like dysphagia, neck pain and obstructive sleep apnea.[15] Our case with sublingual tumour complained of dysphagia, speech deficit, difficulty in mastication and obstructive sleep apnea. The treatment of choice is complete excision after a thorough preoperative clinical and radiological assessment in order to prevent recurrences. When lipoma is deep seated in the muscle, part of the muscle should be excised with it to prevent recurrences.[15] Our cases had complete surgical excision of the tumour either under local or general anaesthesia. No case of recurrence was recorded in those that came for follow up at 6-month and 1-year among our cases.

CONCLUSION

Lipoma is a benign tumor which could cause facial disfigurement and functional deficit. Surgical excision is the ideal treatment with excellent outcome. Magnetic Resonance Imaging and histopathological investigation are essential in the management of lipoma.

RECOMMENDATION: Multi-center study of head and neck lipoma should be encouraged.

CONFLICT OF INTEREST: No conflict of interest

ETHICAL ISSUES: Written permission was obtained from the patient for use of their photographs for publication.

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