

# Irritation Fibroma of the Oro-Facial Region: a retrospective study of cases Treated in a Teaching Hospital in North- West, Nigeria

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## ABSTRACT

**Objective:** Study: Irritation fibroma or traumatic fibroma or fibro-epithelial polyp (FEP) is a benign reactive lesion. It is the most common oral benign tumour. It is mesodermal in origin and has characteristic pink, red or white, and knob-like appearance. It is painless and could present as sessile or pedunculated lesion. Objective of the study was to present the pattern of occurrence and treatment of irritation fibroma occurring in the oro-facial region in our Centre.

**Methods:** This study was a retrospective analysis of cases of irritation fibroma treated at Barau Dikko Teaching Hospital, Kaduna, Nigeria. The period of study spanned from January 2010 to December 2020. Information was collected from the records of the patient and these include: age, gender, aetiology, duration of tumour, location, therapy and histology.

**Results:** Thirty-nine cases were seen. Males were 14 and female 25. The tongue was most affected (n=15, 38.5%), then the buccal mucosa (n=13, 33.3%), gingivae (n=7, 17.9%), cheek (n=2, 5.1%), nose (n=1, 2.6%) and forehead (n=1, 2.6%). The treatment of the tumour was surgical excision.

**Conclusion:** The tumour despite being a benign reactive lesion, it poses dangers to the victim as periodic trauma to it could aggravate a malignant transformation, therefore urgent treatment must be done.

**Keywords:** Fibroma, irritation, oro-facial, benign, tumour, tongue.

## INTRODUCTION

Irritation fibroma is a common benign, exophytic and reactive oral and facial lesion that often develops secondary to trauma (Shankargouda et al., 2014). Irritation fibroma is an inflammatory hyperplastic lesion in response to chronic irritation (Baker et al., 1967). The term irritation fibroma is used to describe presumably hamartomatous or hyperplastic process, not a neoplasm (Fomete et al., 2019). The occurrence of true fibroma (benign neoplasm) is rare, irritation fibroma is considered to be a reactive proliferation rather than a true neoplasm (Fomete et al., 2019). Irritation fibroma develops more commonly in females than in males (Baker et al., 1967 & Fomete et al., 2019). It develops frequently between second and fourth decades of life (Saharan et al., 2017). The high female predilection and a peak occurrence in the second decade of life suggested hormonal influences (Saharan et al., 2017). The intraoral tumour typically is well demarcated; and its size can vary from millimeter to few centimeters (Akinshipo et al., 2019). An irritation or reactive fibroma usually has an etiology which could be

trauma or a source of irritation that provokes overgrowths of fibrous tissue.

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Sources of irritation in the oral cavity includes: calculus, sharp edges of teeth traumatizing the tongue and buccal mucosa, occlusal bite line of posterior teeth biting on the buccal mucosa repeatedly, use of sharp objects in the mouth and improper fitting dental prosthesis causing irritation, broken teeth, overhanging dental restorations (Akinshipo et al., 2019 & Fomete et al., 2019). However, chronic inflammation, infection, hormonal imbalance and allergic reactions may also cause fibroma (Fomete et al., 2019 & Kolte et al., 2010). The tumour is usually well encapsulated, smooth and round surfaced, and soft to firm in consistency (Akinshipo et al., 2019).

The most common sites of irritation fibroma are: the tongue, buccal mucosa, palate, gingival and lower labial mucosa (Farbond et al., 2010). The tumour could grow to become very huge but usually painless. Clinically, they appear as broad-based lesions, lighter in colour than the surrounding normal tissue, the colour is slightly paler than the adjacent healthy tissue with the surface often appearing white because of hyperkeratosis or with surface ulceration caused by secondary trauma (Sahara et al., 2017). Differential diagnosis of this lesion includes benign tumours like: neurofibroma, neurilemmoma, granular cell tumours, lipoma and mucocele. Histologically, it shows normal to hyperplastic para to orthokeratinised epithelial cell with elongated connected rete ridges. Focal hyperplasia of fibroblasts and collagen fibers are present in underlying connective tissue, with little or no inflammatory cell infiltration (Farboud et al., 2010). Apart from commonly occurring irritation or traumatic oral fibroma (reactive hyperplasia), there is another type of fibroma, called true fibroma. True fibroma of oral and maxillofacial areas occurs infrequently (Fomete et al., 2019). The true fibroma is a continuously enlarging new growth not necessarily

arising at a site of potential trauma (Christopoulos et al., 1994; Fomete et al., 2019). Irritation fibroma is rare in the oral cavity and facial region; therefore, we retrospectively review thirty-nine cases treated in our Centre over a period of ten years, from January, 2010 to December, 2020.

### MATERIALS AND METHODS

This study was a retrospective analysis of cases of irritation fibroma in the oral and facial region treated at the Dental/Maxillofacial Clinic of Barau Dikko Teaching Hospital, Kaduna, Nigeria. The period of study spanned from January, 2010 to December 2020. Information was collected from the records of the patients and these include: age, gender, duration, location, size, therapy and histology.

### RESULTS

Thirty-nine cases were seen. Males were 14 and female 25. The ratio of male to female is 1:1.7. The tongue was most affected (n=15, 38.5%), then the buccal mucosa (n=13, 33.3%), gingivae (n=7, 17.9%), cheek (n=2, 5.1%), nose (n=1, 2.6%) and forehead (n=1, 2.6%). The treatment was surgical excision.

Table 1: Age and Sex Distribution of Study Participants

Age group (years)	All Study Participants		Male Participants		Female Participants	
	Frequency (n)	Percent (%)	Frequency (n)	Percent (%)	Frequency (n)	Percent (%)
0 – 10	1	2.60	-	-	1	4.00
11 – 20	1	2.60	-	-	1	4.00
21 – 30	7	17.90	4	28.60	3	12.00
31 – 40	9	23.10	3	21.40	6	24.00
41 – 50	11	28.20	4	28.60	7	28.00
51 – 60	7	17.90	2	14.30	5	20.00
61 – 70	3	7.70	1	7.10	2	8.00
Total	39	100.00	14	100.00	25	100.00

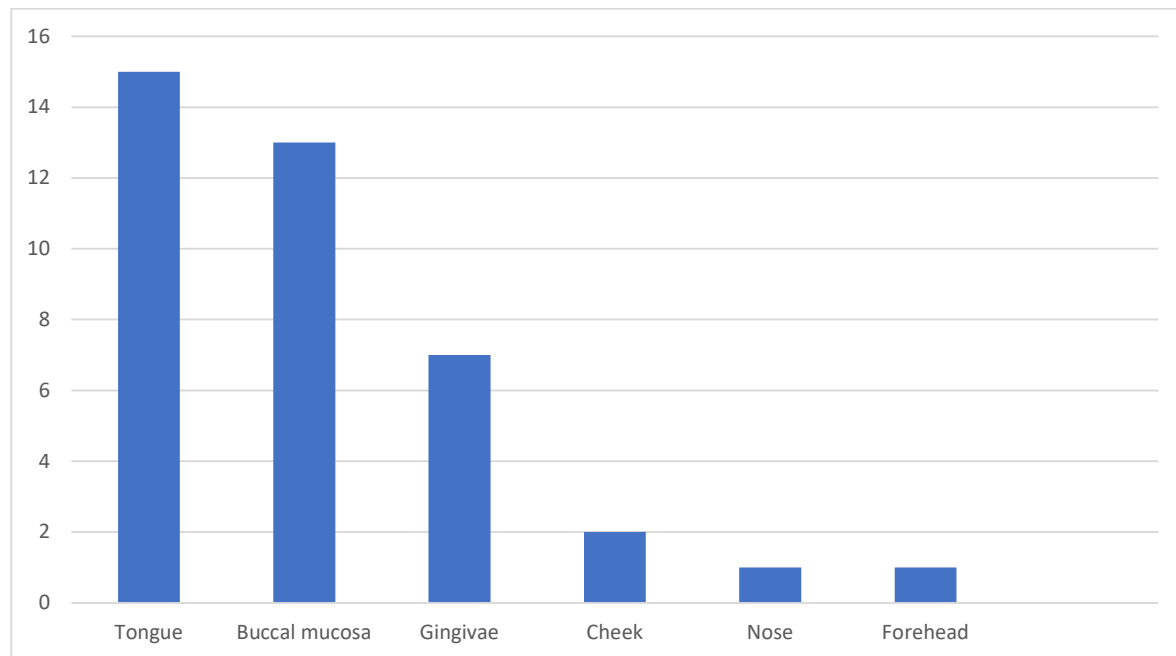


Figure 1: Anatomical Locations of the tumours



Figure 2. A 55years old of man with irritation fibroma on the buccal mucosa

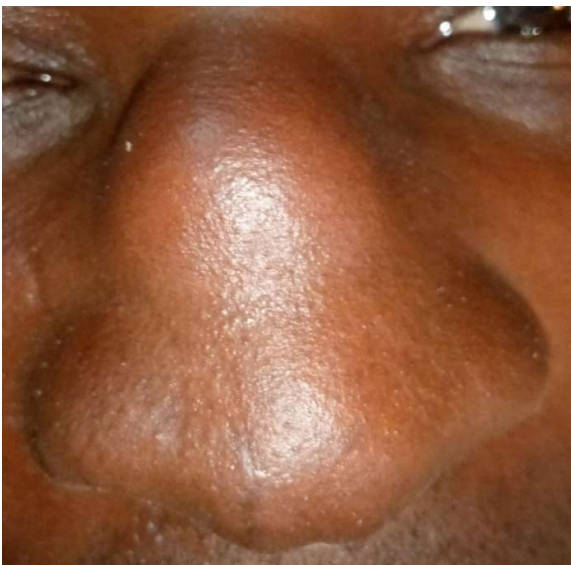


FIGURE 3: A 34years old man with nasal irritation fibroma.



Figure 3b. Excised fibroma

### Histopathological interpretation

Microscopic evaluation with hematoxylin and eosin stain revealed an unusual, inflammatory infiltrate with increased vascularity. It shows normal to hyperplastic, para to orthokeratinised epithelial cell with elongated

connected rete ridges. Focal hyperplasia of fibroblasts and collagen fibers were present in underlying connective tissue. The histopathologic diagnosis was irritation fibroma (Figure 4).

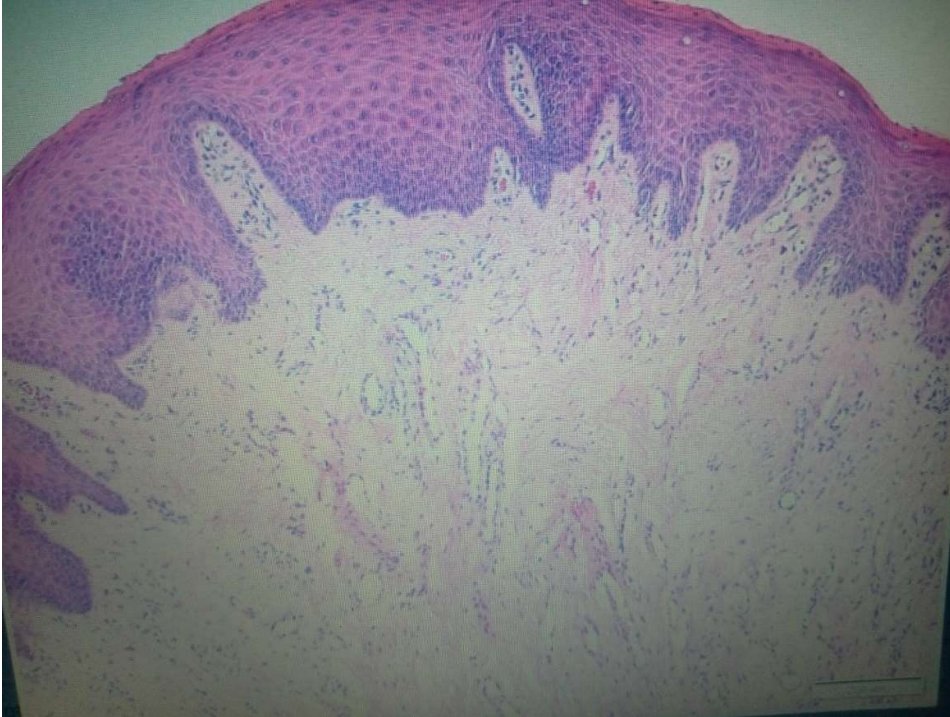


Figure 4. The Histology of irritation fibroma

### DISCUSSION

Fibroma is the most common tumor of oral cavity, that frequently affects the buccal mucosa, tongue and gingival usually due to repeated trauma (Akinshipo et al., 2019). Our study showed highest occurrence in the tongue with the tip of the tongue most affected, then buccal mucosa and the common etiology was repeated trauma from sharp edges of teeth, caries and overhanging restoration (Figure 1). Benign tumours of fibrous connective tissue are commonly seen in the oral cavity, and the great majority represents inflammatory rather than neoplastic conditions (Effion et al., 2011). It is found in 1.2% of adults and has a 66% female predilection (Shankargouda et al., 2014). This study showed female predominance of 64% and it occurred most at the fourth decade of life and very rare in children (Table 1). It could be concluded from this study that it is tumour affecting adults mostly (Table 1). It is usually solitary and seldom larger than 1.5 centimeter (Figure 2) (Halim et al., 2010). All our cases were solitary, but the facial tumours were larger than 1.5centimeter in diameter. The oral lesions are usually asymptomatic, sessile or pedunculated firm mass (Bataineh et al., 2005). The occurrence of irritation fibroma corresponds with intraoral areas that are prone to trauma from teeth and dental restorations: such as the tongue, buccal mucosa, and labial mucosa. The occurrence on the palate had been reported (Mangar et

al., 2004). Irritation fibroma is most commonly prevalent in anterior intraoral region and usually associated with interdental papilla when it occurred on the gingivae (Kaipuzha et al., 2018). In contrast, this study showed occurrence at the tip, ventral surface and dorsum of the tongue, also the gingival lesions occurred at different parts, both anterior and posterior. Majority of the tongue lesions diagnosed in this study were associated with sharp edges of teeth from grossly carious teeth, overhanging restorations and broken teeth, which had been traumatizing the tongue repeatedly. This study also recorded four cases of extraoral occurrence of irritation fibroma, one on the nose (Figure 3) two on the cheek, and one on the forehead. Previous history of trauma to the affected area was a common causative factor in most of our cases. One case in a female with cheek fibroma had duration of 16-years but ever painless except the cosmetic deformity the victim suffered that prompted her seeking for treatment. Treatment of oral irritation fibroma consists of elimination of etiological factors such as smoothing of sharp edges of the teeth, extraction of teeth, changing dental restorations causing the trauma, and total aggressive surgical excision to avoid recurrence. Any identifiable irritant such as an ill-fitting dental appliance and rough restoration should be adjusted. Long-term postoperative follow-up is extremely important because of the high rate of reoccurrence of

incompletely excised lesion. Surgical excision is the treatment for irritation fibroma. All our cases had surgical excision under local anaesthesia except one massive cheek tumour that had surgery under general anaesthesia. We did not record any recurrence from those that reported for follow up for a period two years.

#### **CONCLUSION**

The tumour despite being a benign reactive lesion, causes oral functional deficiencies and occurrence on the face causes cosmetic embarrassment to the victims, it also poses dangers to the victims as periodic trauma to it could aggravate a malignant transformation; therefore, urgent treatment must be done.

#### **DECLARATION OF PATIENT CONSENT**

The authors certify that appropriate patient consents were obtained for the use of their photographs for publication.

#### **FINANCIAL SUPPORT AND SPONSORSHIP**

Nil

#### **CONFLICTS OF INTEREST**

There are no conflicts of interest.

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