



## Retrospective epidemiological study of focal fibrous hyperplasia in the population of Mexicali, Baja California, Mexico.

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**ABSTRACT:** Focal fibrous hyperplasia is a fibrous connective tissue reaction that arises in response to chronic irritation, containing abundant collagen-like scar tissue. This lesion is associated with persistent traumatic factors on oral soft tissues and the treatment of choice is local excision, since they do not regress spontaneously. In the clinical reports of the Mexicali School of Dentistry, focal fibrous hyperplasia is the lesion with the greatest need for histopathological study; For this reason, the following investigation was carried out to determine the epidemiological situation of focal fibrous hyperplasias in the population of Mexicali, Baja California, as well as to specify the most frequent demographic, clinical and histopathological characteristics, and the evolution to surgical treatment. A retrospective descriptive observational study was carried out with the clinical records of 56 patients with histopathological diagnosis of focal fibrous hyperplasia, operated on the Oral Surgery Service of the Mexicali School of Dentistry, Baja California; between January 2018 and December 2019. Epidemiologically, the injuries were more frequent in women (64.3%) than in men (35.7%), in ages from 21 to 40 years, and predominated in housewives. The most common risk factor was occlusal trauma. The most affected anatomical sites: the lower lip (28.6%), the cheek mucosa (25%) and the tongue (16.1%). The excision of the lesion was the biopsy method and surgical treatment in all the patients, which showed a favorable evolution and there was no recurrence of the lesion in any of the cases.

**KEYWORDS:** Fibroma, Gingival Hyperplasia, Focal Epithelial Hyperplasia

### I. INTRODUCTION

Focal fibrous hyperplasia is the most common swelling lesion of the oral cavity that has a reactive origin caused by chronic trauma to the oral mucosa. In these lesions, fibrous connective tissue repair occurs in an exuberant manner, resulting in a clinically evident submucosal mass, covered by healthy mucosa and with almost no symptoms.<sup>1-3</sup>

It is a proliferating lesion of the fibrous connective tissue that arises in response to a chronic irritation that can appear on the lips, gums, the mucosa of the cheeks, the tongue, and the palate. It is observed as a submucosal growth with a smooth surface, it is pink colour or slightly paler than the surrounding mucosa; although it may appear bluish-pink in colour, firm in consistency and sometimes with a sessile or pedunculated base, in them there is an abundant production of collagen, which is why it resembles scar tissue.<sup>4-8</sup>

It is associated with persistent physical irritation of oral soft tissues and is the most common nodular swelling of the oral cavity. They have different etiologies, the most common being chronic and persistent local trauma to the same area of the oral soft tissues. misadjusted prostheses, teeth with sharp edges or restorations, traumatic habits, trauma caused by fixed orthodontic appliances and everything that implies direct physical damage is considered to be the cause of these injuries, they have also been related to excessive consumption of tobacco and / or alcohol.<sup>2, 9-12</sup>

The diagnosis of focal fibrous hyperplasia begins with the clinical method, where the patient reports a history of chronic traumatic irritation and the slow and progressive growth of these lesions. Then, after a very simple surgical procedure, which almost always consists of excisional biopsy, the diagnosis is completed with the histopathological study.<sup>13-16</sup> The clinical and epidemiological presentation tends to confuse them with other very similar neoplastic and non-neoplastic growths.



The treatment of choice is local excision and there is rarely a recurrence of the lesion, unless removal is incomplete or local trauma continues.<sup>7-10</sup>

If it is considered that focal fibrous hyperplasia is the lesion with the greatest need for surgical treatment and histopathological study in the adult population attending the Mexicali School of Dentistry, at the Autonomous University of Baja California, Mexico. The following research question arises: Which is the epidemiological situation of fibrous hyperplasia in Mexicali? It was decided to carry out the following study with the general objective of determining the epidemiological situation of focal fibrous hyperplasias in the population of Mexicali, Baja California. Specifically, to specify the most frequent demographic, clinical and histopathological characteristics in patients with this type of hyperplasia and to describe the treatment used for these lesions and the clinical evolution of the patients.

## II. METHODS

A retrospective descriptive observational study with an epidemiological profile was carried out, in which all the information from the clinical records of 56 patients with the clinical and histopathological diagnosis of focal fibrous hyperplasia in the oral cavity was used. All cases were treated clinically and surgically in the Oral Pathology and Oral Surgery services of the School of Dentistry of Mexicali, Baja California; in the period of time between January 2018 and June 2021.

As it was an investigation without direct participation of the patients, the following inclusion criteria were applied: complete dental medical history, with their respective anamnesis, clinical descriptions, preoperative and postoperative clinical photographs, image data, surgical videos and histopathological results.

The presence of a validly informed consent was of great importance, to access the files for clinical and epidemiological research purposes, with the signatures and authorizations of the patients or their relatives in special cases. Those cases with incomplete files that did not meet the inclusion criteria were excluded.

As part of the methodology, socio-demographic and clinical variables were studied; descriptive statistics tools were applied to determine the frequencies, percentages, proportions and the distribution measures and epidemiological trend of this oral disease. The results of surgical treatments were investigated, in correspondence with histopathological studies. Bioethical principles were respected, with respect for confidentiality and correct handling of data. For the biostatistical study, a database was used, managed with the Microsoft Excel program and the results were shown in graphs.

## III. RESULTS

According to the results obtained, it was found that focal fibrous hyperplasias of the oral cavity were more frequent in females (66.1%) compared to males (33.9%), with a demographic ratio of 2: 1 within the population studied. Regarding the age groups most affected by this disease, the frequency prevailed in the third decade of life, from 21 to 30 years old (28.6%), followed by the group from 41 to 50 years old (21.4%).

Since most of the cases were women, it was found that the most frequent occupations among the patients attended were housewives in 33.9% of all cases, followed by students who represented 26.8%.

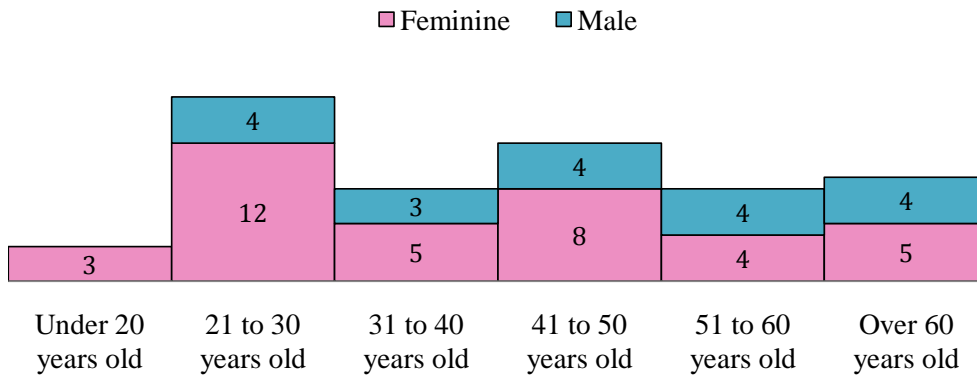
Considering that most of the anatomical structures of the oral cavity are covered by mucosa, the most affected anatomical sites were identified. 28.6% of the patients had a lesion on the lip, mainly the lower one; this anatomical place was followed by the mucosa of the cheeks with 25% and the tongue with 16.1%.

Occlusal trauma was the most frequent risk factor and affected 78.6% of the patients. Other important risk factors in the studied patients were alcoholism in 37.5% of the cases and smoking in 28.6% of the patients with focal fibrous hyperplasia.

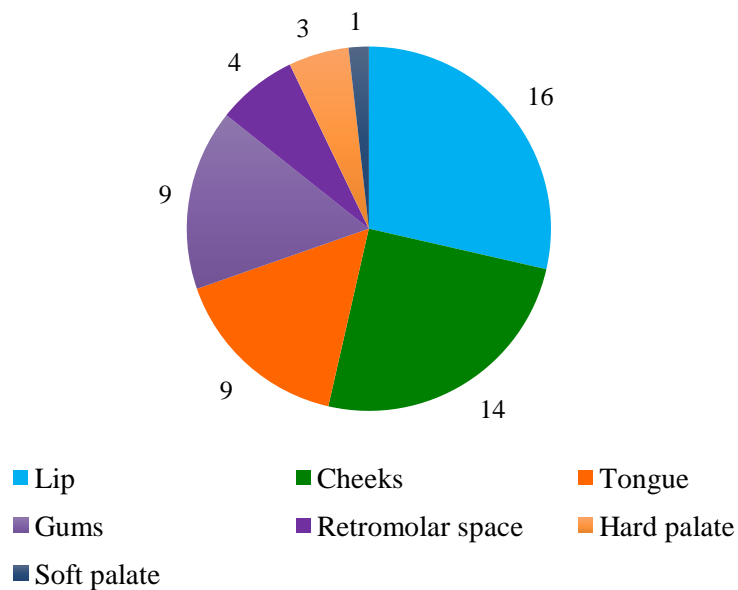
All patients (100%) received surgical treatment for their hyperplastic lesions. All had a favorable evolution, with postsurgical inflammation as the only clinical sign and there were no cases of relapse or recurrence of the affection.

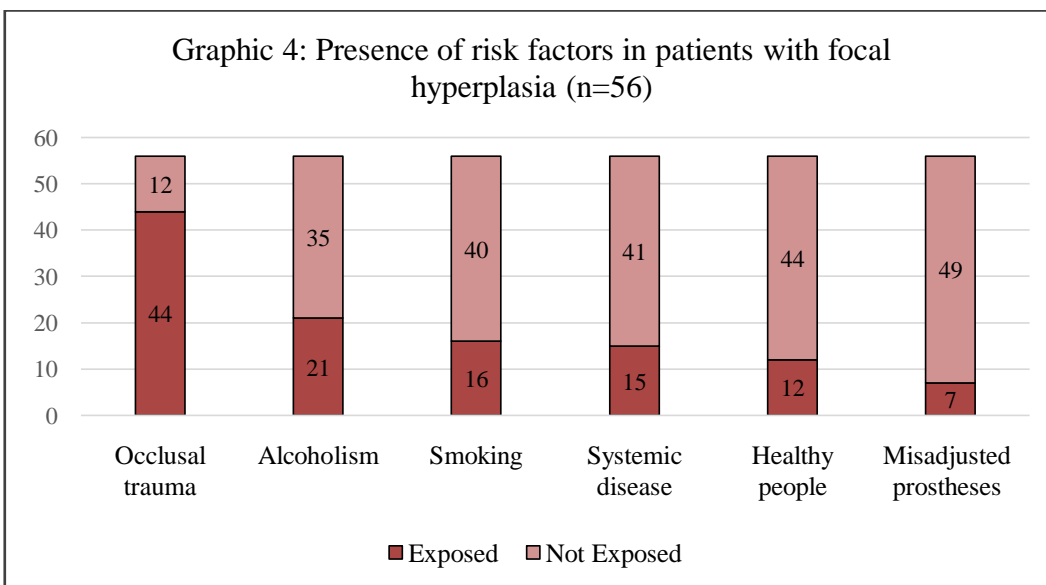
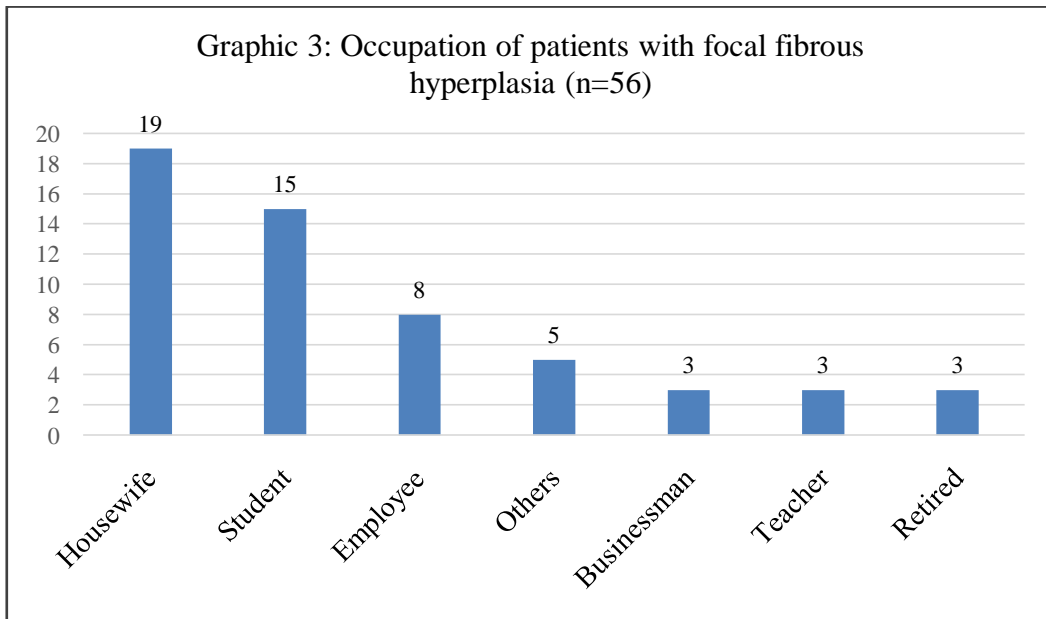


Graphic 1: Distribution of patients according to age and gender (n=56)



Graphic 2: Anatomical location of focal fibrous hyperplasias (n=56)







#### IV. DISCUSSION

The Focal fibrous hyperplasia, also known as "irritation fibroma," is an exuberant reaction of fibrous connective tissue that arises in response to chronic irritation. In this study, it was registered that these lesions are more frequent in the female gender compared to the male gender, in a ratio of 2:1; this agrees with Neville et al.<sup>3</sup>

In the distribution of patients according to age, it is more frequent in the third decade of life, as reported by Regezzi in his studies. This differs from what Neville describes as it is mentioned to be more common between the 4th and 6th decades.<sup>1,3</sup>

Regarding the occupation of the patients, we have that a total of 19 patients with a housewife occupation had this injury, the highest amount, compared to retired people who only registered 3 cases, in terms of the location of the injuries A greater number of 28% stood out in the lip mucosa and in a smaller quantity 1.7% in the soft palate. It is worth mentioning that these figures coincide with the investigations of Odell et al.<sup>5</sup>

The most common risk factor was occlusal trauma with a total of 44 cases, which is equivalent to 78%. On the other hand, the factor with the least presence was that of misadjusted prostheses with 12.5%, this coincides with the research carried out by Rocafuerte.<sup>12</sup>

Other investigations should be carried out where the number of patients and the field of work are greater, carrying out a more specific study, but thanks to this investigation and the established bases will help to carry out future works and to the success of treatments for focal fibrous hyperplasias

#### V. CONCLUSION

Focal fibrous hyperplasia or traumatic fibroma was more frequent in female patients, aged between 21 and 30 years old and mainly dedicated to housework.

The most affected anatomical site was the lower lip, followed by the mucosa in both cheeks with very similar proportions between the right and left sides.

Most of the patients confirmed a traumatic cause of their injury, although there was a history of alcoholism and smoking in more than a third of the cases.

Surgical treatment was successful in completely eliminating the lesions in all patients, according to histopathology confirmation;

inflammation was the most common clinical sign in the postoperative period and no case of recurrence was reported.

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