

**ORAL HEALTH  
ASSESSMENT IN  
PATIENTS WITH  
PSORIASIS AT A  
REFERENCE CENTER**

---

*Thalles Moreira Suassuna*

*Roberta Espíndola de Albuquerque*

*Victória Mendonça Dias*

*Fábio Correia Sampaio*

*Esther Bastos Palitot*

All content in this magazine is licensed under a Creative Commons Attribution License. Attribution-Non-Commercial-Non-Derivatives 4.0 International (CC BY-NC-ND 4.0).



## INTRODUCTION

Psoriasis is an immune-mediated inflammatory skin disease that disrupts the quality of life of individuals by conferring social and physical burdens (BOEHNCKE; SCHON, 2015; PICCIANI, et al., 2016).

Such a problem can manifest itself in different presentations and locations on the body, in addition, several oral lesions are described with greater prevalence in individuals with psoriasis (LESAN, et al., 2018). Its prevalence is estimated between 0.5% and 4.6% with geographic and ethnic variations (BOEHNCKE; SCHON, 2015; SINGH, et al., 2018; DARWAZEH; AL-ABOOSI; BEDAIR, 2016), with 100 million individuals affected around the world. The disease affects both sexes and has two well-marked onset phases. Around 15 to 20 years old, 65% of cases develop, and the rest around 55 to 60 years old (SINGH, et al., 2018).

Lesions in patients with psoriasis typically manifest as erythematous plaques demarcated with adherent silvery-white scales, most often associated with pruritus. The disease is classified into vulgar, inverse, guttate, palmoplantar, pustular, nail, erythrodermic, and psoriatic arthritis psoriasis (BOEHNCKE; SCHÖN, 2015; SINGH, et al., 2018).

As mentioned, some oral conditions have been identified as more prevalent in individuals with psoriasis, among them, mainly, Geographic Tongue (LG), Fissured Tongue (FL), to a lesser extent, Leucoedema, Melanic Pigmentation, Candidosis and, recently, Disease Periodontal (AMSTRONG; BUKHALO; BLAUVELT, 2016; ANCUTA, et al., 2017; LESAN, et al., 2018; SHARMA; RAMON; PRADEEP, 2014).

LG, or Benign Migratory Glossitis, is one of the main entities linked to psoriasis. It is a common oral disease of unknown etiology. It occurs in 0.78% to 5% of the population (BOEHNCKE; SCHON, 2015; SINGH, et

al., 2019). This condition is characterized by atrophy of the filiform papillae, resulting in denuded areas with whitish peripheral zones that migrate through the tongue healing in one location while extending to another (DAFAR, et al., 2017; PICCIANI, et al., 2017) (Figure 1). 1A).

Fissed Tongue, in turn, is a condition that is markedly manifested by grooves of variable number, depth and pattern on the dorsum of the tongue (Figure 1B). It has an incidence between 5% and 10% of the world population (AMSTRONG; BUKHALO; BLAUVELT, 2016). Generally, LF lesions are irreversible, the prevalence increases with age and probably results from long-term glossitis (PICCIANI, et al., 2016).

In addition to these, it has recently been hypothesized that periodontal diseases share the same underlying inflammatory pathogenic process as psoriasis (SHARMA; RAMON; PRADEEP, 2014).

The objective of this study was to carry out an epidemiological survey of the oral health of patients with psoriasis and was justified by the scarcity of studies in the area and existing controversies on the subject.

## DEVELOPMENT

It was a quantitative, prospective, documentary, observational and transversal research. The choice of this methodological design is due to the fact that cross-sectional studies are useful for describing the clinical spectrum of a condition, studying the effects of variables on health and being convenient for examining a network of causal connections.

The project was approved by the Ethics Committee for Research with Human Beings (CEP) of the CCM/UFPB under opinion number 2,770,889, under CAAE 90871318.8.0000.8069, and only individuals who received explanations about the purpose of the research and participated in

the research. signed the Free and Informed Consent Term following the guidelines of the Declaration of Helsinki and Resolution 466/2012. The research was carried out at the Reference, Support and Treatment Center for Psoriasis Carriers of PB (CRATP-PB), located in the HULW-UFPB, a specialized service and regional reference in psoriasis care, which provides approximately 50 visits per month. Data collection was carried out on Tuesday and Thursday mornings between March and August 2019. The sample universe included all patients with a diagnosis confirmed by histopathological examination who underwent periodic clinical follow-ups.

**Non-Clinical Data:** This was the filling out of the form/file, with biographical data, living conditions, health history and history of psoriasis and its treatment.

**Clinical Data:** For the clinical examination, the individual was seated in a chair facing the examiner under mobile artificial light. Apart from the PPE, wooden spatulas, flat mouth mirrors and periodontal probes were used, duly sterilized.

Clinical examinations were performed by a single examiner, who was calibrated and trained for this purpose. Data from the medical records were transferred, tabulated and coded in an Excel spreadsheet (Microsoft) and then transferred to the free statistical software "R" ([www.r-project.org](http://www.r-project.org)), where a descriptive analysis of the data was performed.

## RESULTS

During the research period, data were collected from 138 patients, of which only 124 entered the study because they had complete data.

The mean age of the patients analyzed was 49.3 ( $\pm$  14.6) years, ranging from 10 to 79 years, indicating a balanced distribution between genders, where the majority of the sample (54%) was brown (Table 1).

Regarding oral lesions, 57% of the patients had cleft tongue (50% mild, 29% moderate and 19% severe) and 5.65% of the patients had characteristics of erythema migrans, and in all these cases there was concomitant cleft tongue. There were still six cases (4.8%) who claimed to remember an GL episode (Table 2).

The ISG obtained an average of 48% ( $\pm$  42), whose standard deviation indicates great heterogeneity of this variable and the amplitude confirms this impression (minimum 0, maximum of 100%). As for the salivary flow, an average value of 0.18  $\pm$  0.15 was observed, with a median value of 0.1.

## DISCUSSION

In our study, we found a balanced distribution between genders, data that are in line with the findings in the literature (BOEHNCKE; SCHON, 2015). In addition, we found an ethnic distribution that covered the different ethnicities present in our country, with a predilection for brown individuals (54%).

The association of psoriasis with fissured tongue and geographic tongue is well documented. While in the general population the prevalence of LG is between 1 to 2% of the population and of LF between 5 to 10%, in psoriatics it varies between 5.6 to 8.1% for LG and between 9.8 to 47% for LF (PICCIANI, et al., 2016; PICCIANI, et al., 2017).

In the present study, we found a significant portion of patients with LF (57%), and a more discreet portion with LG (5.6%), and in all cases of LG there was associated LF. This observation reaffirms the notion that these manifestations can coexist.

Although the studies are in agreement in pointing out the association, variability is observed in the incidence values. This can be explained by a wide range of differences in sampling, examination method, even examiner calibration and whether the patient



Figure 1: A – Geographic Language. B - Fissed Tongue.

Variables	n	Average	Median	Minimum	Maximum	Total	
Age	124	49,3	52	10	79	14,6	
Variable						n	%
Gender							
Female					64	51,6	
Male					60	48,4	

Table 1: Biographical data

Variable	n	%
Mouth injury		
Fissured tongue	71	57,2
LG + LF	7	5,6
Others (Leukoplakia and Hairy Tongue)	2	1,6
None	43	34,6
LF severity		
Light	39	50,6
Moderate	23	29,8
Severe	15	19,4
Antecedentes de LG		
Yes	6	4,8
No	70	56,4
The person does not know	48	38,7

Table 2: Data on oral lesions

is on drug treatment or not. In addition, as it is a transitory expression, LG may not be present at the time of the examination.

A relevant question is what could be the explanation for this high prevalence of LG in individuals with psoriasis. And the literature indicates that LG has mechanisms similar to psoriasis, in an interrelationship of genetics with environmental factors (PICCIANI, et al., 2017). On the other hand, studies indicate that there is a histopathological and genetic difference between LG and psoriasis, which would characterize a pathological entity distinct from LG (PICCIANI, et al., 2017).

In relation to LF, it was found in 63% (50% mild, 29% moderate and 19% severe) of the sample, and there was coexistence of LG in 5.65% of the cases. This finding reinforces the data in the literature that point to the association. In addition, it reinforces the understanding that GL and psoriasis are transient, while LF is permanent, consolidating itself as a late expression and consequence of GL (PICCIANI, et al., 2016).

Another situation that has been pointed out in the literature with a possible association with psoriasis is periodontal disease.

In a systematic review, data were found that also suggest a relationship between PD and psoriasis severity (MONSON, et al., 2016). And in another study, it was pointed out that individuals with psoriasis have a higher rate of periodontal disease and with greater severity compared to the control group. Also finding an association between the severity of both pathologies (SHARMA; RAMON; PRADEEP, 2014).

In the present study, we used the Gingival Bleeding Index (GSI) to assess periodontal health and found an average of 48% ( $\pm$  42) as a result. The standard deviation of this magnitude indicates that, in some individuals, this index was very high and, in others, very low. Thus, given this variability, it is suggested

that there are other determining factors that influence the onset and persistence of periodontal disease and that may be more important than the presence or absence of psoriasis.

## CONCLUSION

We could conclude that, in fact, there is an increased prevalence of Geographic Tongue and Fissured Tongue in patients with Psoriasis. However, many questions remain in need of further elucidation. Among them the clinical and histopathological distinction between Geographic Tongue and Oral Psoriasis. As well as the genetic association that may exist between psoriasis and oral diseases.

## REFERENCES

1. ANCUTA, C. *et al.* TNF inhibitors and periodontal inflammation in psoriatic arthritis. **Rev Chim**, Bucharest, v.68, n.8, p.1914-1918, 2017.
2. ARMSTRONG, A. W.; BUKHALO, M.; BLAUVELT, A. A Clinician's Guide to the Diagnosis and Treatment of Candidiasis in Patients with Psoriasis. **American Journal Of Clinical Dermatology**, [s.l.], v.17, n.4, p.329-336, jul. 2016.
3. BOEHNCKE, W. H.; SCHÖN, M. P. Psoriasis. **Lancet**, v.386, n. 1, p. 983-994, 2015.
4. DAFAR, A. *et al.* Salivary levels of interleukin-8 and growth factors are modulated in patients with geographic tongue. **Oral Diseases**, [s.l.], v.23, n.6, p. 757-762, mar. 2017.
5. DARWAZEH, A.; AL-ABOOSI, M.; BEDAIR, A. Prevalence of oral mucosal lesions in psoriatic patients: a controlled study. **Journal Of Clinical And Experimental Dentistry**, [s.l.], v.4, n.5, p. 286-291, dez. 2012.
6. LESAN, S. *et al.* Oral Candida colonization and plaque type psoriasis: Is there any relationship?. **Journal of investigative and clinical dentistry**, v. 9, n. 3, p. e12335, 2018.
7. MONSON, C. A. *et al.* Oral Health Issues in Psoriasis: an overview of the literature. **International Journal Of Clinical Dermatology & Research**, [s.l.], v.4, n.4, p. 94-103, nov. 2016.
8. PICCIANI, B. *et al.* Investigation of the clinical features of geographic tongue: unveiling its relationship with oral psoriasis. **International journal of dermatology**, [s.l.], v.56, n.4, p.421-427, 2017.
9. PICCIANI, B. L. S. *et al.* Geographic tongue and psoriasis: clinical, histopathological, immunohistochemical and genetic correlation - a literature review. **Anais Brasileiros de Dermatologia**, Rio de Janeiro, v.91, n.4, p.410-421, jul./ago. 2016.
10. SHARMA, A; RAMAN, A; PRADEEP, Ar. Association of chronic periodontitis and psoriasis: periodontal status with severity of psoriasis. **Oral Diseases**, [s.l.], v. 21, n. 3, p. 314-319, 11 ago. 2014.
11. SINGH, S. *et al.* Genomic alterations driving psoriasis pathogenesis. **Gene**, [s.l.], v.30, n.683, p.61-71, jan. 2019.