



Evaluation of the Frequency and Clinical Features of Aggressive Periodontitis

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ABSTRACT

The objective of our study was to determine the frequency of aggressive periodontitis in our patients and to evaluate the correlation between local etiological factors (bacterial plaque) and the severity of the disease through the study of the clinical aspects of this periodontal involvement in our population. A total of 300 patients aged 12 to 35 years, who consulted at our periodontology department, were examined between September 2016 and December 2017.

A descriptive study based on a clinical examination using PI and GI indices, periodontal pocket probing, and radiographic examination was conducted. The periodontal disease classification used was that of Armitage (1999).

The results showed that aggressive periodontitis was diagnosed in 51 patients, representing a frequency of 17%, and was significantly more frequent in women (82.35%).

The association between the PI and GI indices was 60%, representing a positive linear correlation (95% CI: [0.39–0.75]).

Periodontal pockets ≥ 4 mm, ≥ 6 mm, and ≥ 8 mm were significantly more common on proximal surfaces than on buccal, palatal, or lingual surfaces.

The frequency of aggressive periodontitis in our patients is relatively high, which is significantly related to poor oral hygiene and moderate inflammation.

1. INTRODUCTION

Aggressive periodontitis is characterized by rapid and severe destruction of the periodontal attachment and alveolar bone. The degree of plaque accumulation is inconsistent with the severity of tissue destruction. This condition has a familial character and occurs in young individuals who are otherwise systemically healthy. [1,2]

It is a multifactorial disease, in which microbiological, genetic, immunological, and environmental factors determine its onset, progression, and severity.

Various virulence factors of specific periodontal pathogens, such as *Aggregatibacter actinomycetemcomitans*, as well as a genetic predisposition, influence the initiation and progression of the disease (Armitage, 1999).

Aggressive periodontitis includes localized (LAP) and generalized (GAP) forms. [2,3]

The localized form typically emerges around puberty and is specifically localized to the first molars and incisors. It involves interproximal attachment loss on at least two permanent teeth, one of which is a first molar, and includes no more than two additional teeth other than the incisors and first molars (Tonetti et al., 1999). [4]

Clinically, all individuals affected by LAP present with:

- Bone loss ≥ 4 mm,
- A lack of apparent inflammation despite the presence of deep periodontal pockets.
- Advanced bone loss.
- The amount of plaque is minimal, which is inconsistent with the severity of destruction.

Radiographically:

- Bone lysis is often vertical on the proximal surfaces of the first permanent molars, but usually horizontal on the incisors,

as the bone is thinner than on the molars.

- Molar defects exhibit a "mirror-image" pattern according to Baer (1971).

The generalized form (GAP) usually affects patients under 30 years of age, although they may be older, and involves most or all of the permanent dentition. [5]

Tonetti (1999) suggests that the disease progresses through episodes of pronounced attachment loss and bone destruction. [4]

Clinically:

- Presence of gingival bleeding, halitosis, purulent exudation from the gums, tooth mobility, and generalized gingival recessions. [6]
- A poor serum antibody response to infectious agents in patients with GAP. [5]

Radiographically:

- Severe destruction of the alveolar bone, with a combination of vertical and horizontal defects. [5, 6]

The prevalence of aggressive periodontitis has been the subject of several epidemiological studies conducted in different countries and continents, and has been reported to be much lower than that of chronic periodontitis.

In a systematic review of various studies accounting for geographical factors and racial groups, Susin and Albandar (2014) show that aggressive periodontitis is most prevalent in African populations and their descendants. Its prevalence ranges from 1% to 5%. [7]

In a population of students aged 12 to 25 years in Uganda, a prevalence of 6.5% was found by Albandar [8]. In Morocco, a prevalence of 7.6% among adolescents aged 14 to 19 years was reported by Haubek et al. [9]. In Sudan, Elamin, in his study on schoolchildren aged 13 to 19 years, reported a prevalence of 3.4%. [10]

In our country, there is insufficient data on the prevalence of this destructive disease, with the exception of a report by Fourel in 1969, who documented 5 cases of juvenile periodontitis among approximately 80,000 subjects examined in Algiers. [11]

Therefore, the objective of our study is to determine the frequency of aggressive periodontitis in our patient population, and subsequently, to evaluate the correlation between local etiological factors (bacterial plaque) and the severity of the disease through a study of the clinical features of this periodontal condition in this population.

II. MATERIALS AND METHODS

Study Design and Setting

This was a descriptive cross-sectional study conducted in the Periodontology Department of **Issad Hassani Beni Messous University Hospital**, within the Department of Dental Medicine at the Faculty of Algiers.

The study period extended from September 2016 to December 2017. The study population consisted of randomly selected patients consulting the Periodontology Department of Beni Messous University Hospital, as well as referred patients presenting with signs of periodontitis (periodontal pockets, tooth mobility, and bone lysis—provided they had a panoramic radiograph at the time of consultation).

A sample size of 300 patients was included in the study.

Data Collection

The medical history, clinical observation, and measurements were performed by a single examiner and recorded on a questionnaire specifically designed for the study.

For each patient, the following data were recorded:

- Age, sex, personal and family medical history.
- Oral hygiene habits, categorized as:
 - ✓ No brushing
 - ✓ Insufficient brushing (0 to 1 time/day)
 - ✓ Regular brushing (2 to 3 times/day)

Clinical Parameters:

Oral hygiene was assessed using the Plaque Index (PI) of Silness and Løe (1964). The obtained value was used to classify the patients' hygiene as follows:

- ✓ Good: PI = 0
- ✓ Insufficient: PI between]0-1]
- ✓ Poor: PI between]1-2]
- ✓ Very Poor: PI between]2-3]

Similarly, gingival inflammation was assessed using the Gingival Index (GI) of Løe and Silness (1963):

- ✓ GI = 0: Absence of inflammation
- ✓ GI between]0-1]: Mild inflammation
- ✓ GI between]1-2]: Moderate inflammation

✓ GI between]2-3]: Severe inflammation

The presence of calculus was also recorded for each of the six sextants of the mouth as either present (+) or absent (-).

Periodontal Examination

Regarding periodontal probing for pocket depth and clinical attachment level determination, six sites per tooth were measured using a graduated periodontal probe: three on the buccal aspect (mesial, mid-buccal, distal) and three on the lingual or palatal aspect (mesial, mid-lingual, distal). Periodontal pocket depth (PPD) was recorded in millimeters (mm).

Recession was recorded for all present teeth as "yes" if present and "no" if absent.

Tooth mobility was assessed using a modified version of Miller's Index, graded as follows:

- **Degree I:** Perceptible horizontal mobility between two fingers.
- **Degree II:** Visible horizontal mobility with a displacement of less than 1 mm.
- **Degree III:** Horizontal mobility allowing for a displacement greater than 1 mm.
- **Degree IV:** Vertical (axial) mobility.

Bone loss was evaluated using panoramic radiographs to assess the type and severity of bone lysis. Furcation involvement was classified according to Glickman's classification (1958).

Diagnostic Criteria and Statistical Analysis

A positive diagnosis for each patient was based on the classification established by Armitage (1999). According to this classification, aggressive periodontitis includes localized (LAP) and generalized (GAP) forms.

Data entry and analysis were performed using Epi-Info 6 and Epi-Data version 2.03 software. The statistical tests used (percentage comparison, chi-square test, odds ratio, Fisher's exact test) were two-tailed, and the significance level (α) was set at 5%. Confidence intervals (CI) at 95% for means and percentages are provided.

III. RESULTS

A total of 300 patients presenting with signs of periodontitis were examined. Of these, 174 (58%) were women and 126 (42%) were men, yielding a sex ratio of 0.72.

The mean age of the population was 28.17 ± 5.52 years.

The periodontal assessment of the population led to a diagnosis of chronic periodontitis (CP) in 249 patients (83%) and aggressive periodontitis (AgP) in 51 patients (17% of cases).

The frequency of aggressive periodontitis (both localized and generalized forms) was 17%.

Aggressive periodontitis was significantly more frequent in women ($p < 0.001$) (Fig. 1).

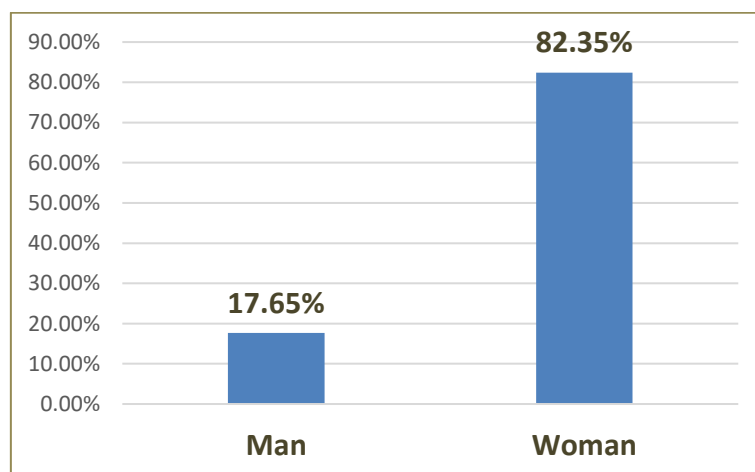


Figure 1: Distribution of aggressive periodontitis by gender.

Aggressive periodontitis was significantly higher in the 20–27 year age group ($p < 0.001$). (Table 1).

Table 1: Distribution of aggressive periodontitis by age group.

| Age group (years) | Sample Size | % |
|-------------------|-------------|------|
| 12-19 years | 5 | 9,8 |
| 20-27 years | 27 | 52,9 |
| 28-35 years | 19 | 37,3 |
| Total | 51 | 100 |

Of the 51 patients with aggressive periodontitis, 30 had localized aggressive periodontitis (LAP), accounting for 58.8%, and 21 patients had generalized aggressive periodontitis (GAP), accounting for 41.2%.

Insufficient brushing (0 to 1 time/day) was significantly more prevalent among patients with aggressive periodontitis ($p < 0.001$). Indeed, patients with insufficient brushing (0 to 1 time/day) represented the highest percentage in both forms of aggressive periodontitis (66.7% for LAP and 71.4% for GAP) (Fig. 2).

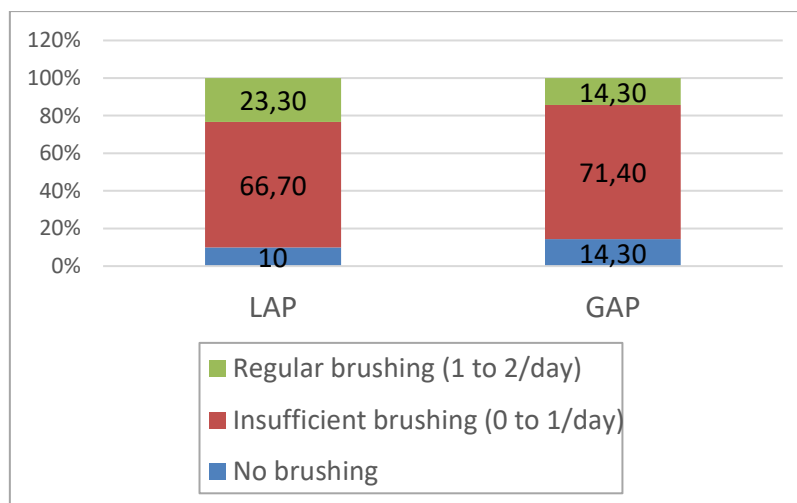


Figure 2: Distribution of LAP and GAP according to oral hygiene habits.

Regarding plaque presence within our sample, the mean Plaque Index (PI) was 1.76 with a standard deviation of 0.61. The minimum value was 0 and the maximum value was 3.

A PI value between 1 and 2 was significantly higher in patients with aggressive periodontitis ($p < 0.001$), indicating poor oral hygiene. Only two patients had good hygiene. (Table 2)

Table 2: Distribution of patients with AgP according to Plaque Index (PI) scores.

| PI | Sample size | % |
|--------------|-------------|------|
| 0 | 2 | 3,9 |
|]0-1] | 5 | 9,8 |
|]1-2] | 39 | 76,5 |
|]2-3] | 5 | 9,8 |
| Total | 51 | 100 |

Calculus was present in 80.4% of patients with aggressive periodontitis.

Moderate gingival inflammation was significantly more prevalent (56.9%) in patients with aggressive periodontitis ($p < 0.001$). Only 13 patients (25.5%) presented with severe inflammation. (Table 3)

Table 3: Distribution of patients with AgP according to Gingival Index (GI) scores.

| GI | Sample size | % |
|--------------|-------------|------|
|]0-1] | 9 | 17,6 |
|]1-2] | 29 | 56,9 |
|]2-3] | 13 | 25,5 |
| Total | 51 | 100 |

A correlation between the two indices (Plaque Index and Gingival Index) was investigated (Fig. 3).

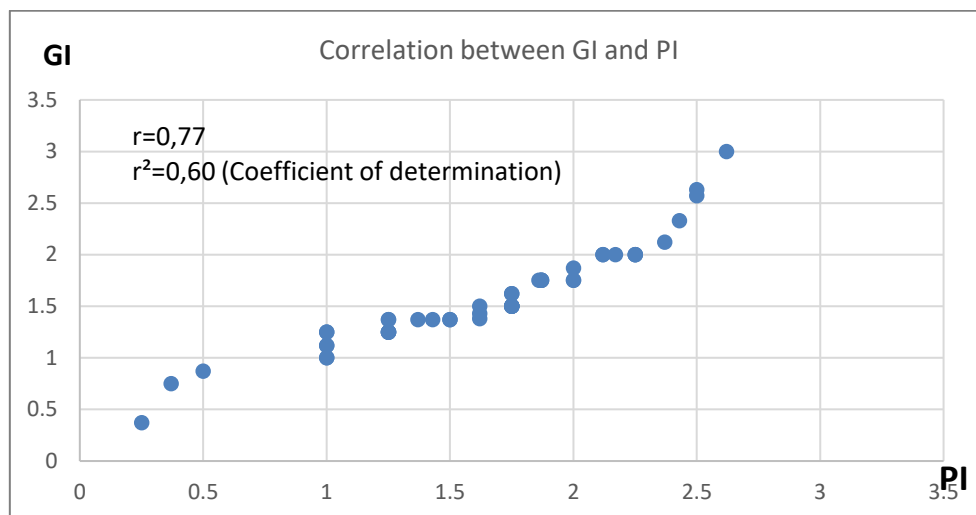


Figure 3: Correlation between the Plaque Index and the Gingival Index.

The association between the PI and GI was 60%, indicating a positive linear correlation (95% CI: [0.39-0.75]).

The most frequently missing teeth in the maxilla were the first premolar and the first molar (5.88% for each), followed by the central incisor (4.90%) (Fig. 4).

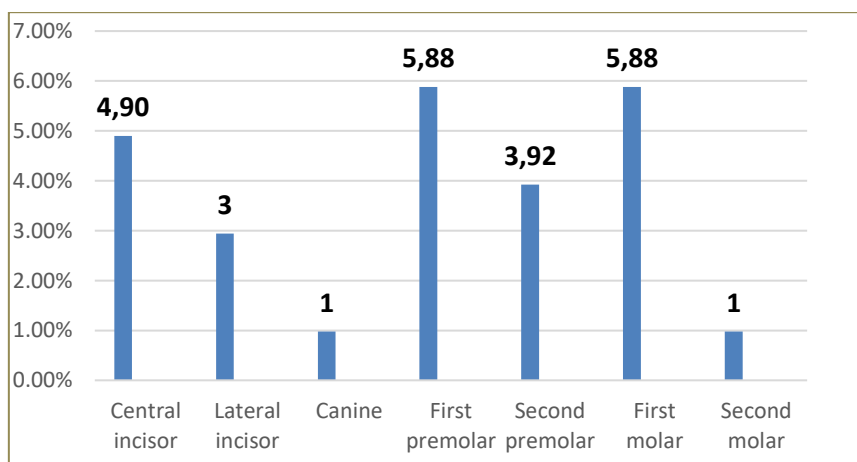


Figure 4: Distribution of the most frequently missing teeth in the maxilla.

In the mandible, the most frequently missing tooth was the first molar (13.73%), followed by the second premolar (7.84%) and the central incisor (6.86%) (Fig. 5).

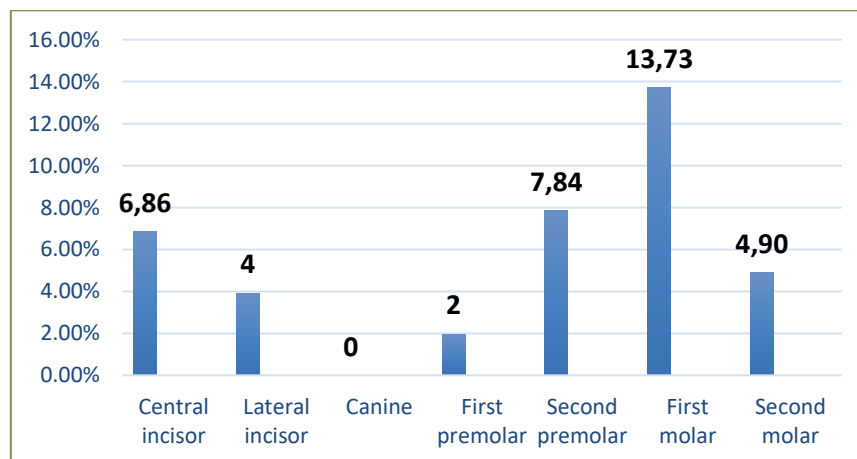


Figure 5: Distribution of the most frequently missing teeth in the mandible.

The distribution of aggressive periodontitis according to periodontal pocket (PP) depth showed that in over 10 sites, 45.09% of patients with AgP had pockets deeper than 6 mm.

In the maxilla, the second molar had a significantly higher number of teeth with a PP ≥ 4 mm in patients with GAP compared to those with LAP (92.86% versus 33%, SD, $p < 0.001$).

For PP ≥ 6 mm, the second premolar had a significantly higher number in patients with GAP (42.8%) than in those with LAP (16.6%, SD, $p < 0.05$).

For PP ≥ 8 mm, the first molar had the highest number, with 57.14% in patients with GAP versus 30% in those with LAP, but without a significant difference (Fig. 6 and 7).

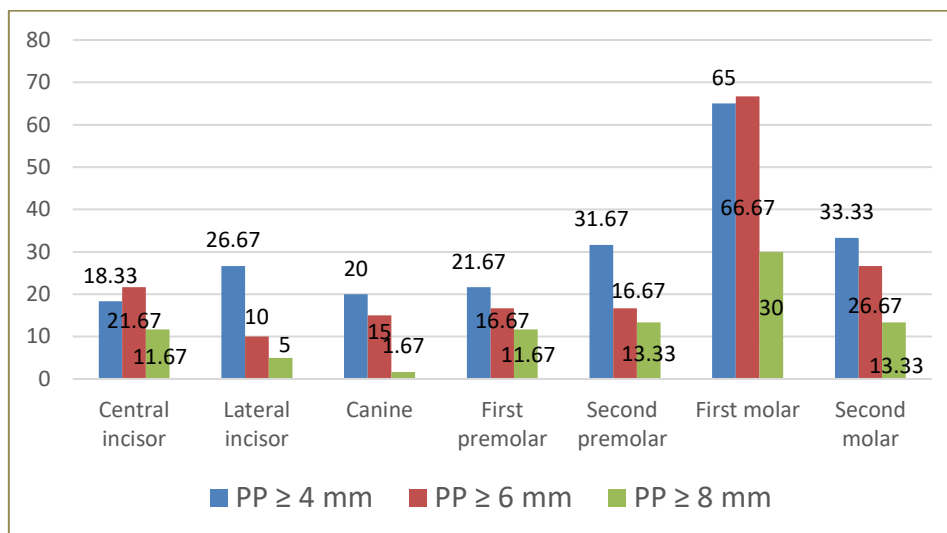


Figure 6: Distribution of teeth with a periodontal pocket (PP) depth ≥ 4 mm in the maxilla among patients with localized aggressive periodontitis (LAP).

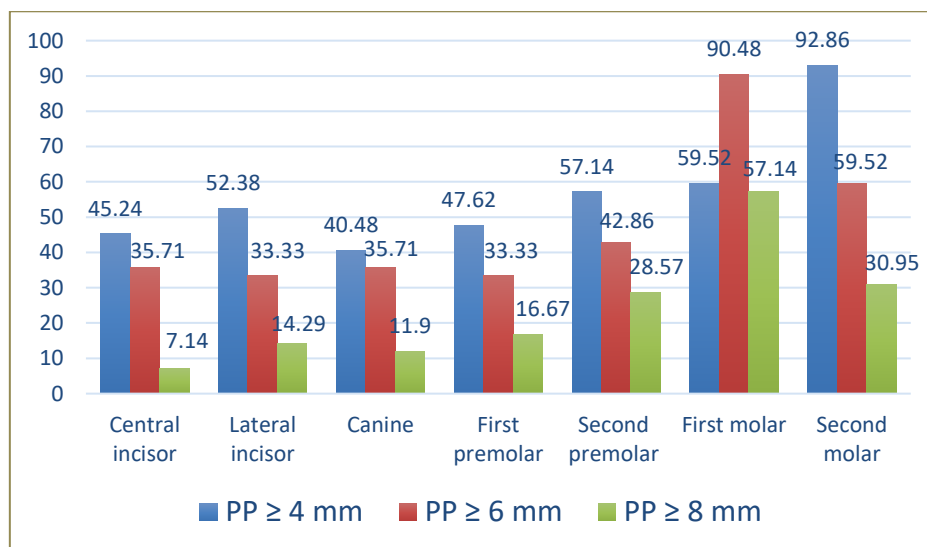


Figure 7: Distribution of teeth with a periodontal pocket (PP) depth ≥ 4 mm in the maxilla among patients with generalized aggressive periodontitis (GAP).

In the mandible, the first molar showed a higher number of teeth with PP ≥ 4 mm in GAP compared to LAP (50% versus 40%), but without a significant difference (NS).

For teeth with PP ≥ 6 mm, the second molar showed the highest number in patients with GAP (47.61%), compared to LAP (10%, SD, $p < 0.003$).

For PP ≥ 8 mm, the first molar showed the highest number in patients with GAP (73.81%), compared to patients with LAP (28.3%, SD, $p < 0.001$) (Fig. 8 and 9).

SD: Significant difference; NS: Non-significant.

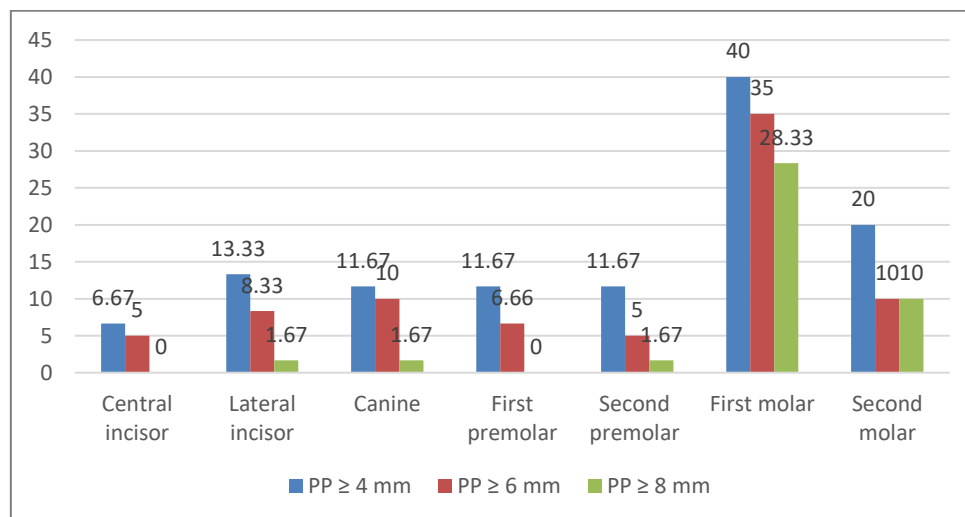


Figure 8: Distribution of teeth with a periodontal pocket (PP) depth ≥ 4 mm in the mandible among patients with localized aggressive periodontitis (LAP).

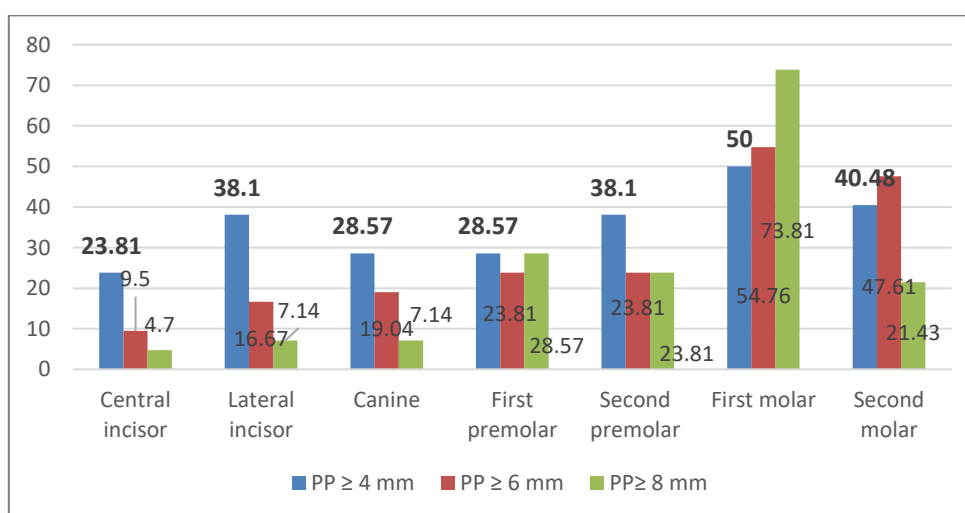


Figure 9: Distribution of teeth with a periodontal pocket (PP) depth ≥ 4 mm in the mandible among patients with generalized aggressive periodontitis (GAP).

A total of 669 tooth surfaces were assessed for periodontal pocket depth in the maxilla. There was no significant difference between buccal and palatal surfaces, or between mesial and distal surfaces, for $PP \geq 4$ mm, $PP \geq 6$ mm, and $PP \geq 8$ mm in both forms of aggressive periodontitis (LAP and GAP).

However, the number of mesial and distal surfaces was significantly higher than that of buccal and palatal surfaces (SD, $p < 0.001$) for $PP \geq 4$ mm, $PP \geq 6$ mm, and $PP \geq 8$ mm, in both LAP and GAP patients.

In the mandible, the total number of tooth surfaces assessed was 658. There was no significant difference between buccal and lingual surfaces, or between mesial and distal surfaces for $PP \geq 4$ mm, $PP \geq 6$ mm, and $PP \geq 8$ mm in both LAP and GAP.

However, the number of mesial and distal surfaces was significantly higher than that of buccal and lingual surfaces (SD, $p < 0.001$) for $PP \geq 4$ mm and $PP \geq 6$ mm in both LAP and GAP. For $PP \geq 8$ mm, the difference was not significant (NS) in both forms.

Gingival recession was present in 95.24% of patients with GAP compared to 83.30% of patients with LAP, but without a significant difference.

Regarding tooth mobility, all patients (100%) with GAP presented with tooth mobility, compared to 83.33% of patients with LAP. In the maxilla, the lateral incisor (64.29%) and the central incisor (57.14%) were the most frequently mobile teeth in patients with GAP, as well as in patients with LAP (30% for the lateral and 26.67% for the central incisor), with a significant difference for the central incisor ($p < 0.03$). For the first molar, mobility was observed in 23.81% in GAP versus 13.33% in LAP, with no significant difference (NS) (Fig. 10).

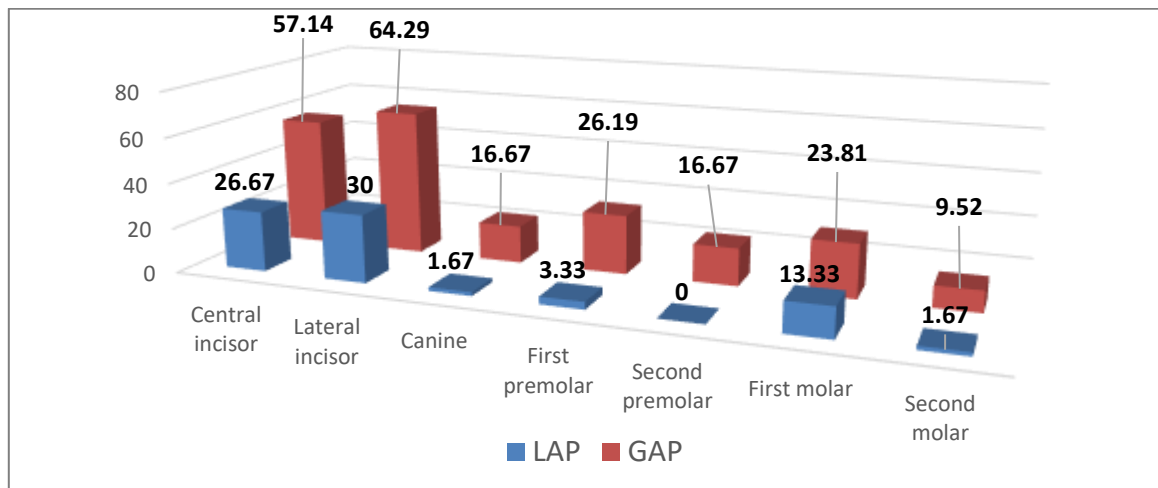


Figure 10: Distribution of LAP and GAP according to the location of mobile teeth in the maxilla.

In the mandible, the most frequently mobile tooth was the central incisor, followed by the lateral incisor in both forms of aggressive periodontitis (GAP and LAP), with rates of (54.76% versus 25%) and (57.14% versus 18.33%) respectively, with a significant difference (SD) for the lateral incisor ($p < 0.003$).

The second premolar was significantly more mobile in patients with GAP, with (21.43%) versus (1.67%) in patients with LAP (SD, $p < 0.003$) (Fig. 11).

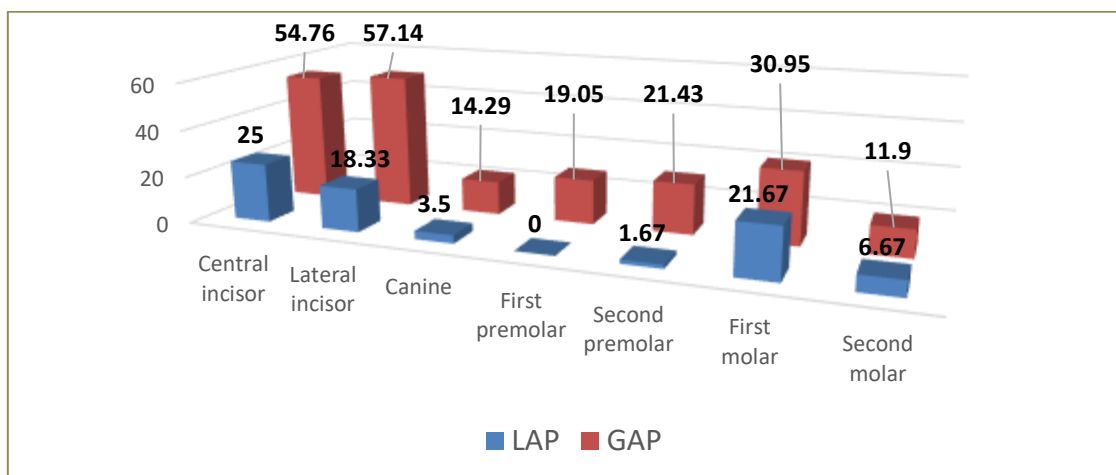


Figure 11: Distribution of LAP and GAP according to the location of mobile teeth in the mandible.

In our sample, vertical bone loss was observed in 82.35% of cases affecting ≤ 5 sites, while 45.1% of cases exhibited mixed bone loss affecting more than 10 sites.

No significant difference was found between LAP and GAP cases for vertical bone loss. However, mixed bone loss was significantly more prevalent in GAP cases (Table 4).

Table 4: Distribution of LAP and GAP cases according to type of bone loss.

| Type of bone loss | Mean | | Standard Deviation | | P |
|-------------------|------|-------|--------------------|------|---------|
| | PAL | PAG | PAL | PAG | |
| Verticale | 3,33 | 4,04 | 2,0 | 1,85 | DNS |
| Mixte | 6,63 | 14,95 | 4,3 | 4,86 | < 0,001 |

Furcation involvement was observed in 49% of patients with aggressive periodontitis.

Generalized aggressive periodontitis (GAP) showed a higher percentage of furcation involvement (52.38%) compared to localized aggressive periodontitis (LAP) (46.67%), with no significant difference (NS) (Table 5).

Table 5: Distribution of LAP and GAP cases according to furcation involvement.

| Furcation involvement | PAL | | PAG | |
|-----------------------|--------|-------|--------|-------|
| | Number | % | Number | % |
| Oui | 14 | 46,67 | 11 | 52,38 |
| Non | 16 | 53,33 | 10 | 47,62 |
| Total | 30 | 100 | 21 | 100 |

IV. DISCUSSION

Methodological Considerations

From a methodological perspective, our sample was selected from a representative population, as it was varied and included patients from several provinces and diverse socioeconomic backgrounds.

Our sample size may seem limited compared to studies conducted by Albandar [12], Sadegui [13], and Elamin [10]. However, in the study by Corraini et al. [14], the sample was smaller with only 134 individuals, and Haubek [9] studied a population of a similar size with 301 patients.

The age range of our population, as well as the clinical and radiographic parameters used to assess periodontal status, were the same as those used in the majority of studies reported in the literature worldwide.

Comparison with Existing Literature

In the national context, the study by Saidi-Ouahrani (2007) [15], involving 1330 individuals, identified 274 subjects with aggressive periodontitis (20.60%). Makrelouf (2009) reported 470 patients with aggressive periodontitis out of 15,830 consulting patients aged 6 to 35 years (2.96%) [16]. Yacoubi (2011) reported 57 cases of aggressive periodontitis among 500 examined patients aged 12 years and older (11.4%) [17]. These findings are close to those of our current study.

Internationally, the prevalence of aggressive periodontitis in North America was 1.7% according to the study by Albandar et al. (1997), 10.0% in African-American adolescents, 5% in Hispanics, and 1.3% in white American adolescents [12].

Global Prevalence Variations

In South America, the prevalence of aggressive periodontitis in Brazil was 3.7% according to Gjermo (1984) [18], 5.5% for Susin et al. (2005) [19], and 9.9% for Corraini (2009) [14]. However, the study by Boligon (2017), conducted at the University of Santa Maria in Brazil, reported a prevalence of 13.51% in patients aged 15 to 19 and 20.89% in patients aged 20 to 29 [20]. These results are not far from those of our study, and the variations may stem from differences in the methods used to screen for aggressive periodontitis across study populations.

In Europe, the prevalence of aggressive periodontitis was low: 0.1% in Finland [21], Switzerland [22], Denmark [23], Norway [24], and the United Kingdom [25]. In Italy, it was 0.5% [26]. In Asia, a prevalence of 1.6% was reported in India by Shivanand et al. (2015) [27]; in Japan, the prevalence was 0.47% (Kowashi et al.) [28]; and in Turkey, 0.6% (Eres et al.) [29].

All these results are lower than those of our study. We deduce that the frequency of aggressive periodontitis worldwide is highly variable and controversial. It varies significantly between different geographical regions and different races [7].

In Africa, the prevalence of aggressive periodontitis was 27.57% in Senegal [30, 31]. In Uganda, Albandar et al. (2002) [8] found 28.8%, and in Congo (Kinshasa), Kazadi et al. (2017) [32] reported 10.9%. In Morocco, Belhaissi et al. in 2004 found a prevalence of 12% [33]. The frequency of 17% in our study falls within the range of results from these countries.

Gender Distribution

Regarding gender, our study showed that women were significantly more affected than men (82.35% versus 17.65%). Similar results have been found in several studies. Politis et al. in Lebanon reported 61% affected women compared to 39% men [34]. Belhaissi et al. [33] found two affected women for every affected man, and in Chile, Lopez et al. [35] reported in their study 7 women and 1 man. In Congo, Kazadi et al. (2017) found in their study 30 women with AgP (13.90%) compared to 14 men (9.30%) [32].

However, some studies have reported significant differences in aggressive periodontitis favoring males. In Sudan, Elamin et al. (2010) identified the disease in 4.9% of boys and 2.0% of girls [10]. In the study by Susin et al. (2005) in Southern Brazil, the disease occurred equally in men and women [19].

For our study, we believe that women consult more frequently than men and that they are more concerned about their oral health than men. A genetic influence should not be ruled out, based on the results of studies by Saidi-Ouahrani [36] and Boukourt [37] on the genetics of AgP in families from Western Algeria, especially since among our patients, we recorded a pair of 19-year-old twins with LAP and two sisters, one aged 20 and the other 21, with LAP. This familial character guides us towards the possibility of a hereditary predisposition.

Age Distribution

Regarding age, the frequency of AgP among our patients was significantly higher in the 20-27 years age group. Patients aged 12 to 19 years represented a proportion of 9.8%. We deduce that aggressive periodontitis is more frequent in young adults than in children

and adolescents.

In the study by Albandar et al. [8], the prevalence of aggressive periodontitis also increased with age. The authors reported 35.2% AgP in subjects aged 20 to 25 years, compared to 29.1% AgP in patients aged 17 to 19 years, and 26.8% in subjects aged 12 to 16 years. This is the same observation as in our study.

Belhaissi et al. [33], as well as Benoit [38], found that the most affected age group of patients was between 20 and 24 years. In the study by Boligon [20], the 20-29 age group had the highest frequency of AgP. These results confirm those in the literature, which state that aggressive periodontitis is detected more frequently in older children and young adults than in younger children [7].

However, some studies have reported different frequencies of AgP depending on the age of the subjects studied. Corraini et al. [14] found, in an isolated and untreated Brazilian population, 10.3% AgP in subjects aged 12 to 19 years and 9.7% in subjects aged 20 to 29 years. In our study, the low frequency of AgP in the 12-19 age group could be due to the small number of patients in this category (15/300, or 5% of the study population).

Oral Hygiene and Clinical Indices

Aggressive periodontitis was significantly associated with patients who reported insufficient brushing habits, which was present in 68.60% of cases. Similarly, brushing was absent in 11.8% of subjects with AgP. The same result was found in the study by Ababneh et al. [39], where a low brushing frequency was significantly associated with an increased risk of periodontitis. The frequency of AgP in Yemeni schools was associated with a lack of oral hygiene (Imrani and Ataa, 2010) [40].

Poor oral hygiene was significantly higher in patients with AgP, and the mean PI was 1.50 ± 0.31 . Similar results were found in the study by Ababneh et al. [39] in patients with AgP, where the mean PI was 1.67 ± 0.52 . Susin et al. found significantly higher percentages of sites with dental plaque and supragingival calculus in subjects with AgP [19]. Calculus was present in 80.4% of patients with AgP.

In our sample, the mean GI was 1.67 ± 0.34 . The same findings were reported by Albandar et al. [41], whose results demonstrated that gingival inflammation and subgingival calculus were associated with early periodontal breakdown. In the correlation analysis between the oral hygiene (PI) of our patients and their degree of inflammation (GI), a positive correlation coefficient was found.

Distribution of AgP Forms (LAP vs. GAP)

In this study, 30 patients had LAP (58.8%) and 21 patients had GAP (41.2%). Many studies have found a higher number of patients with LAP than with GAP [8, 39, 41, 42, 43, 44].

Tooth Loss and Periodontal Parameters

The most frequently missing teeth in the maxilla were the first premolar (5.88%) and the first molar (5.88%), followed by the central incisor (4.90%). In the mandible, the most frequently missing tooth was the first molar (13.73%), followed by the second premolar (7.84%) and the central incisor (6.86%). No canines were missing. Similar results were found in the study by Politis et al. [34]. Ahnoux-Kouadio [45] reported more missing teeth in generalized forms than in localized forms, but without a significant difference. The mean periodontal pocket depths for patients with LAP and GAP were 2.72 ± 1.05 mm and 3.30 ± 1.39 mm, respectively (no significant difference). A mean PP of 3.5 ± 0.37 mm was found in the study by Ababneh et al. [39], and 3.09 ± 0.76 mm was found by Benoit [38]. The upper first molar had significantly deeper pockets than other teeth [39]. Albandar et al. [12] reported a high percentage of PP ≥ 4 mm in the first and second molars of patients with AgP in both the maxilla and mandible.

Gingival Recession and Tooth Mobility

In this study, gingival recession was very frequent in patients with both GAP and LAP. This can be explained by significant local factors (plaque and calculus) superimposed on tooth migration and eruption secondary to the bone loss associated with aggressive periodontitis. Albandar et al. found a high frequency of gingival recession on mandibular anterior teeth [8]. For Cho et al., gingival recession was more pronounced on the maxillary first molar [46].

Tooth mobility was strongly associated with AgP in this study, as 100% of patients with GAP and 83.33% with LAP presented with mobile teeth. In the study by Politis et al., the central incisor was the most mobile tooth in both the maxilla and mandible. The least mobile teeth were the canine and the second molar in both arches [34].

Bone Loss and Furcation Involvement

For bone loss, no significant difference was found between GAP and LAP cases for the different degrees of bone loss. The means for vertical and mixed bone loss were higher in both forms of AgP. The same results were found by Politis et al. [34], Susin et al. [19], and Almas et al. [47], where the incisors and first molars were the teeth most affected by bone loss.

Furcation involvement was present in both forms of AgP, with no significant difference between LAP (46.67%) and GAP (52.38%) cases. Makrelouf [16] found 76.6% furcation involvement in their study, and 30 patients had degree 3 and 4 involvement (23.4%).

V. CONCLUSION

Based on the results obtained, we can conclude that aggressive periodontitis is frequent among our patients and that local etiological factors can be risk factors for this disease.

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