

“Stomatites Under Prosthetic. Epidemiological Study”

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Summary: *The port of a dental prosthesis removable evil perhaps conceived mechanical source of irritation, which in the absence of a rigorous hygiene and of a regular follow-up in the doctor dentist can support the appearance of stomatitis under prosthetic. A study was carried out on the level of the dental service of medicine of the teaching hospital Sidi-Beautiful-Abbots to evaluate the prevalence of this lesion. 37,1% of our population of study suffered from prosthetic stomatitis with an average age of 57,19±1,28. We also made an approach on the risk factors of appearance of this lesion.*

To manage the provisional character of the removable prosthesis, the respect of the standards of the design of the latter and a regular follow-up by the doctor dentist, will make it possible to prevent the appearance of the stomatitis under prosthetic.

Keywords: *prosthetic stomatitis, removable dental prosthesis, epidemiology.*

I. Introduction

In spite of the efforts made in the prevention of the oral affections, total or partial loss of teeth still assigns an important part of the population. For socio-economic reasons, the removable prosthesis remains the means of rehabilitation more practiced. However, it can generate an ignition of the subjacent, generally known mucous membrane under the name of stomatitis under prosthetic.

Several authors described the prosthetic stomatitis; in first in medical documentation in 1936 by Cahn which described it under the name “dental prosthesis stops painful”. [19]; then Budtz-Jorgensen wrote “the stomatitis related to the prosthesis is defined as an inflammatory process of the oral mucous membrane which is under a dental prosthesis or removable or total partial apparatus.” [20]

Gauzeran writes “the prosthetic stomatitis indicates a whole of affection concerning the oral mucous membranes compared to the under-surface of the removable prostheses out of acrylic resin and this whatever the cause: infectious, traumatic or allergic. This affection more often meets on the level of the palatine mucous membrane and seldom touches the mucous membrane mandibulaire.” [21]

For Wilson, the prosthetic stomatitis is described as an inflammatory condition frequently observed at the dental carriers of prostheses [22].

For Newton, it is an ignition or chronic erythema which is limited to the mucous membrane covered by the complete or partial prosthesis [23].

For Lambson it is the under-prosthetic ouranite [24].

The stomatitis is probably the oral lesion most often found at carriers of removable prosthesis [25] [26]. The exact frequency of this affection is variable between 06% and 65% following the authors.

Arendorf at the time of a review of literature carried out in 1987, found a prevalence varying from 11 to 67% at carriers of complete prosthesis [27]. The prosthetic stomatitis would be present at 24 at 60% of the carriers of prosthesis according to McFarlane. Webb and coll as for them found a prevalence of 37,3% for the prosthetic stomatitis at their group of patients [28]. Shulman at the time of an important study on 3450 patients noted a prevalence of prosthetic stomatitis of 27,9% [29].

The studies carried out near a Canadian population give a prevalence which varies between 21 and 77,5% [30]. The highest prevalence relates to two studies led to Quebec: 71 and 77,5% respectively [31]. These figures remain slightly high in Algeria; according to a made investigation has Tlemcen, the prevalence of the stomatitis under prosthetic reaches the 74,4%.

II. Objectives Of The Study

To estimate the prevalence of the prosthetic stomatitis related to the port of the prosthesis associated in the area of SidiBelAbbes, Algeria. To evaluate the association of the prosthetic stomatitis with potentials risk factors.

III. Materials And Methods

Type of study: A transverse descriptive investigation to aim analytical.

Population of study: The population of our study is made up of partial or total toothless patients, followed to the dental service of medicine of the teaching hospital of Sidi beautiful abbots of the period from January to May 2015. Criteria of inclusion: The patients included in our study are the already installed made toothless patients consulting with the dental unit of prosthesis of the dental service of medicine of the teaching hospital of Sidi beautiful abbots. Criteria of exclusion: Toothless patients carrying joint prosthesis and made toothless patients not carriers of prosthesis. Sample Size: The sample consisted of 124 patients carrying total and partial removable prostheses.

Data Acquisition and statistical analysis:

The dependant variable was formed by the presence or not of the prosthetic stomatitis. The data were collected, treated and analyzed, by using software SPSS 20.0; The statistical test of significance X^2 was employed with a confidence interval of 95%.

IV. Results

Description of the sample

1. Répartition according to the kind:

Among the 124 patients taking part our study has, we find 57 men and 67 women.

	Masculine	Female	Total
Manpower	57	67	124
%	52,2%	47,8%	100%

2. Distribution according to the age bracket:

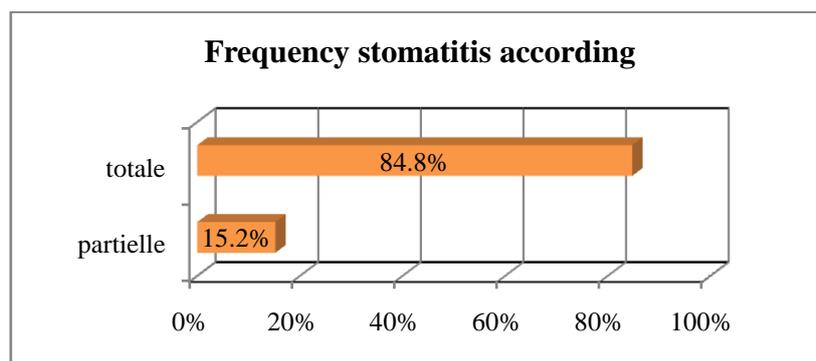
The average age of our subjects is of 57,19 + 1,28 years, aves of the ages extreme of 20 with 85ans.

	20_39 years	40_59 years	60 years and more	Total
Manpower	9	41	74	124
%	6,5%	30,4%	63,0%	100%

- Average: 57,19 + 1,28
- Minimum: 20 years
- Maximum: 85 years

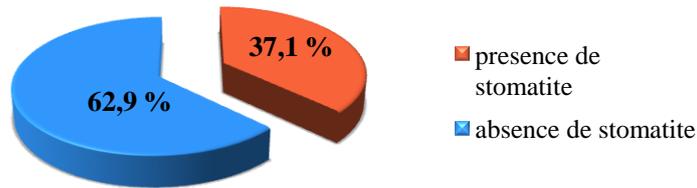
3. Distribution according to the type of the prosthesis:

The majority of the patients, 84,8% carry total assistant prostheses.



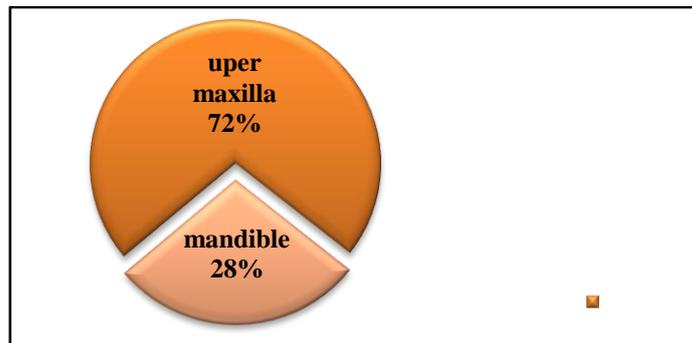
4. Prevalence of the Stomatitis

On the 124 subjects carrying removable prosthesis examined, 46 were reached of stomatitis prosthetic. The prevalence of this lesion was thus of **37,1%**.



5. Frequency of the Stomatitis according to the localization

The prosthetic lesion stomatitis is more localized with the upper maxilla:72%.



6. Presence of the stomatitis according to the kind

The prosthetic stomatitis touches the two kinds without distinction, and there is no difference significant enters the lesion and the kind. P=0,287

	Masculine	Female	TOTAL
Manpower	24	22	46
%	52,2%	47,8%	100%

7. Distribution of the stomatitis according to the age brackets

The prosthetic stomatitis touches all the age brackets, and there is no difference significant enters the lesion and the age. P=0,072

	20_39years	40_59years	60years and more	Total
Manpower	3	14	29	46
%	6,5%	30,4%	63,0%	100%

8. Presence of the stomatitis and the profession:

There is no significant difference between the presence of the stomatitis and the profession. P=0.6

9. Presence of the stomatitis and the medical antecedents of the patient:

There is no significant difference between the presence in stomatitis and the antecedents. P=0,279

10. Presence of the stomatitis and the practices of life of the patient:

There is no significant difference between the presence in stomatitis and the practices (tobacco, alcohol...) patients. P=0,089

11. Presence of the stomatitis and the health condition of the patient:

There is no significant difference between the presence of stomatitis and the health condition of patients. P=0,183

12. Presence of the stomatitis and the state of hygiene of the prosthesis:

There is no significant difference between the presence of stomatitis and the state of hygiene of prostheses.

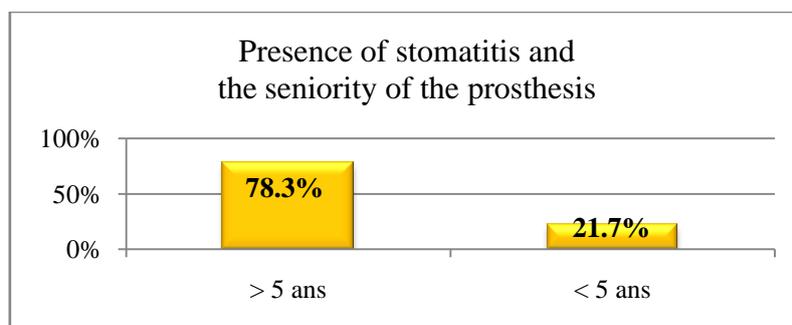
13. Presence of the stomatitis and the frequency of hygiene of the prosthesis

There is no significant difference concerning the stomatitis and hygiene of the prostheses. 26,1% only which declared that they never clean their prostheses. P=0,189

14. Presence of the stomatitis and the seniority of the prosthesis

More than 78% of the patients reached of prosthetic stomatitis are carrying prosthesis old of more than 05 years.

The difference is very significant. P=0,0001



15. Presence of the stomatitis and erroneous occlusion

The difference is very significant. P=0,0001

	Correct occlusion	Erroneous occlusion	Total
Manpower	14	32	46
%	30,4%	69,6%	100%

16. Presence of the stomatitis and stability of the prosthesis

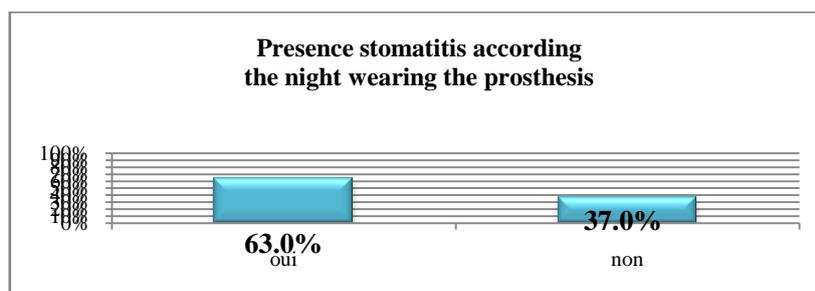
More than 65% of patients reached of prosthetic stomatitis have prostheses unstable. The difference is very significant. P=0,002

Presence of the stomatitis and stability of the prosthesis



17. Presence of the stomatitis and the night port of the prosthesis

The difference is very significant. P=0,001



18.Frequency of the stomatitis and the prosthetic visit post in the dentist

Meadows of the totality of the patients reached of prosthetic stomatitis never consulted their dentist after the delivery of the prosthesis. The difference is T significant. P=0,035

	1 time / year	2 time/year	3time/year	never	total
Manpower	0	0	1	45	46
%	0,0%	0,0%	2,2%	97,8%	100,0%

V. Discussion

The prevalence of the prosthetic stomatitis among patients followed to the service of Dental medicine of the teaching hospital of sidi beautiful abbots was estimated at 37,1%. Our study revealed a frequency similar to that published by several authors in other country. The investigation of coll and cueto in 2012 in Iran [55], of Mandali and coll in Turki en2011 [55], and of Kossioni [55] in Greece in 2011. *The stomatitis under prosthetic key plus the upper maxilla, this prevalence of the palatine localization was described by several authors [56]. *Our study shows a significant prevalence of the stomatitis at carriers of total prosthesis. * Our investigation corroborated with the results of Figueiral and coll [32] which do not havenot found a difference significant as regards prosthetic hygiene; on the other hand severalwork accused the insufficiency of prosthetic hygiene like source of of ignition of the oral mucous membrane [61] [62] [83].

*The seniority of the prosthesis could support the appearance of the stomatitisprosthetic. According to the Bars and his/her collaborators [111], the port the old onescomplete prostheses can be in the beginning various disorders of the apparatus stomatognathic. The team of Figueiral [3] found that 31,4% of the prosthesesold of less than 5 years caused prosthetic stomatitis against 48,4% for those from 5 to 15 years and 57,9% for those of more than 15 years. *L' erroneous occlusion was also associated with the prosthetic stomatitis.Figueiral and its collaborators [32] have advanced that 67,6% of the prostheses or Occlusion is erroneous, caused a prosthetic stomatitis. This prevalence corresponds with our results. *Our investigation also confirmed the results of several researchers [112] [32][61] [62] [83] on the role of the instability of the prosthesis in the appearance ofstomatitis.

*Our study affirms that the night port involved an ignition of mucous membrane. Al-Dwairi [61] has also advanced that 87% of the patients reached of prosthetic stomatitis carried their apparatuses the night. *The frequency of the post-prosthetic visit influences the frequency of the stomatitis prosthetic, the near total of the stomatitis is observed among patients who did not profit from visit in the dentist.

Table Of Prevalence And Comparative With Various Studies And Our Work

Authors	Year	Country	Cut sample	Old	%
Nyquist	1952	Switzerland	1090	20	27%
Bergman, Carlsoet Hedegard	1964	Switzerland	90	29	47%
Coil, Gosca and Mixon	1967	England	522	20	43%
Budtz-Rirgensen, Stenderup and Grabowski	1975	Denmark	463	65	65%
Blasberg, MacEntee and Conklin	1985	Canada	200	24	40%
Cumming, white, Blackwell and Wray	1990	Scotland	121	61	65%
Espinoza and coll	2003	Chile	889	65	34%
Barbel and coll	2003	Canada	21	56,3±1,1	57,1%
Marchini and coll	2004	Brazil	236	62	42,4%
Shulman and coll	2005	The United States	3450	59,2±0,5	27,9%
Mumcus and coll	2005	Turkey	765		20,5%
Baran and coll	2009	Turkey	310	65	35,8%
Divaris and coll	2010	Greece	873		6%
Ferreira and coll	2010	Brazil	335		15,2%
Jainkittivong and coll	2010	Thailand	380		18,1%
Mandali and coll	2011	Turkey	153		35,3%
Baran and coll	2011	Turkey	269		44%
Kossioni	2011	Greece	106	67,7±9,9	39,6%
Mozafari and coll	2012	Iran	202		54,6%
Cueto and coll	2012	Chile	126	70	37,1%
Oussadit Zakia	2012	Algeria	119	30	74,4%
Sakar and coll	2013	Turkey	365	70	46,3%
Weighing and coll	2013	Thailand	128	57	52,3%
Our study	2015	Algeria	124	57,19±1,28	37,1%

V. Conclusion

This study enabled us to make the following synthesis:

No the significant difference according to the kind and the age, the prosthetic stomatitis touches the women as much as the men, at all the ages. The profession, the medical antecedents, the practices of life, the health condition of the patient, are not retained like supporting factors the appearance of the stomatitis under prosthetic; even the state of hygiene of the prosthesis of the dental prosthesis is not statically significant. On the other hand, the seniority of the dental prosthesis, its night port, its instability, erroneous occlusion, and not followed by a doctor dentist, are factors which supported the appearance of the stomatitis under prosthetic which it is largely widespread on the level of the upper maxilla. Thus, one will be able to avoid the appearance of this disease, if the expert and the patient agree on a plan of success of the prosthetic project and who summarizes himself in the following recommendations:

VI. Recommendations

An comprehensive approach in the treatment of the prosthetic stomatitis is necessary. For prescribing a medicamentous treatment, it would be necessary to eliminate the factors responsible for the prosthetic stomatitis by adjusting some the prostheses. An old prosthesis (more than 03 years) is to be remade, it is necessary to recognize the provisional character of the acrylic resin prosthesis.

One can advance some suggestions to avoid the appearance of this disease:

Pre Prevention - Prosthetic:

Before the beginning of the clothes industry properly-known as of the complete prosthesis, a prosthetic pre approach is necessary such as: Prosthetic surgery, the tissue conditioning, the provisional prosthesis...; allows to improve quality of the fabrics which will be used as support with the restoration.

Prevention During The Prosthetic Phase:

Once the improvement of the structures of support obtained, the prosthetic treatment can to start. The success of this treatment is obtained if the prosthetic bases answer the requirements mechanics known under the name of triad of Housset (retention, stability, lift).

Prosthetic Post Prevention:

To explain to the patients the provisional character of his prosthesis from where need for changing it after a certain duration. To give all the instructions of oral hygiene and the shrinking of the prostheses during the night by using disinfectants. To insist on the importance of the regular visits in the dentist in order to prevent the stomatitis prosthetic as well as other pathological lesions.

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