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EMINENT SCIENTIST OF THE YEAR 2003

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Prof. SUSUMU NISIZAKI

URUGUAY

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Prof. SUSUMU NISIZAKI

Prof. Susumu Nisizaki, a world renowned scientist in the fields of Gerodontology and Prosthodontics from South America, holds the position of Professor and Chairman in the Department of Complete Prosthodontics in the Faculty of Dentistry of the University of the Republic, Montevideo, Uruguay.

Born on January 2nd , 1942 in Montevideo, Uruguay, he completed his Major in Dentistry at the Prosthodontics Department in Osaka, Japan (Faculty of Dentistry) in 1972 followed by postgraduate studies in different countries such as: Argentina, Brazil, Peru, U.S.A (University of Michigan) and also Japan.

An Instructor at the Department of Complete Prosthodontics, Faculty of Dentistry Montevideo, Uruguay from 1965 to 1977, he became an Assistant Professor (1977-1991) and he gained the position of Professor and Chairman in the same Department in 1991.

In 2001 he was appointed Professor and Chairman in the Postgraduate Department of Geriatric Dentistry (specialty and Master's degree) at the Faculty of Dentistry, Montevideo, Uruguay.

A Research fellow at the Faculty of Dentistry in Osaka, Japan (March-April 1895), he also performed as a researcher at the Faculties of Dentistry of Osaka, Nagasaki and Hiroshima Universities Japan, from February 3rd to March 1st , 1999.

He has been at the Faculty of Dentistry's and the Uruguayan Dental Association's Postgraduate regular lecturer.

He has been a guest lecturer and has participated in the organization of postgraduate courses in Uruguay, Argentina, Brazil, Peru, Ecuador, Chile, Spain, Japan, Israel, Italy, U.S.A, Holland and France.

From 1974 to 1984 he was the director of the Journal "Anales de la Facultad de Odontología" Montevideo, Uruguay.

He was a Scientific Consultant in the fields of Prosthodontics and Geriatric Dentistry at the Dental Clinic Department of Banco de la República Oriental del Uruguay and of different national and international institutions.

Prof. Nisizaki has been named as a "Distinguished Foreign Visiting Professor" because of his work in Prosthodontics and Geriatric Dentistry. He has been working in the Complete Prosthetics Department for more that 35 years. Since its main objective is to teach how to treat edentulous and nearly edentulous patients and it gives assistance to mainly old people, ageing concepts have been included in the Undergraduate Program since 1974.

Prof. Nisizaki gave lectures on Gerodontology in different cities in Japan. One of the main subjects he lectured on, has already been published under the title "Philosophical Approach in Old Adult's Dental Treatment", Special care in Dentistry 23(1)4.6.03.- Another important contribution to this publication was the editorial " The Feelings of a Gerodontologist" Special care in Dentistry 22(1)4.5.02.-.

Prof. Nisizaki is deeply involved with Philosophical and emotional aspects related to his practice. Concerning old adult's treatment, he favours teamwork requiring the active participation of both dentists and physicians in the teams.

Prof. Nisizaki has received an outstanding number of awards and nominations during his successful career:- Official guest of the National University of Rosario (Argentina). September-October 1991.

- President of the South American Branch of the S.I.P.A.F. (Societé Internationele de Prothèse Adjointe Fonctionnelle et Piézographique - International Society of Functional Removable Prosthodontics and Piezography). Named in Paris (France), August 1, 1993.

- President of the "Symposium of Functional Removable Prosthodontics and Piezography" held by the S.I.P.A.F. (Societé Internationele de Prothèse Adjointe Fonctionnelle et Piézographique - International Society of Functional Removable Prosthodontics and Piezography). Paris (France),

July 9-11, 1997.

- Medal of the city of Paris, received from Paris' City Hall (France), July 10, 1997

- President of So.La.Ge. (Sociedad Latinoamericana de Gerodontología - Latinamerican Society of Gerodontology), 1998 until today.

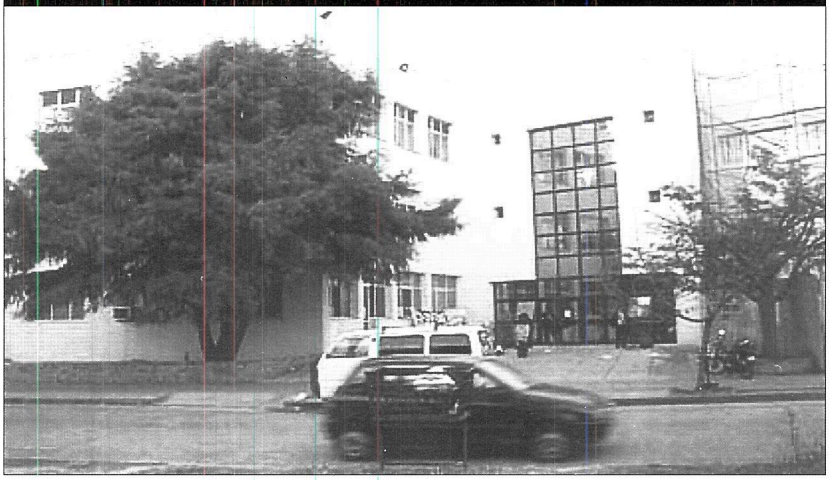
- Honour guest of Mar del Plata's City Hall (Argentina), September 17-19, 1998.

- President of the International Gerodontology Conference held in Montevideo (Uruguay), May 7-9, 2000.

- Nominated by the IBC (International Biographical Center of Cambridge - England) to be included in the publication "2000 Outstanding Intellectuals of the 21st Century, second edition", which is due for release in early 2003. Awarded by the IBC (International Biographical Center of Cambridge - England) with the 21st Century Award for Achievement.

On accountant of his continuous, hard and involved academic work, his outstanding research excellence in the fields of Prosthodontics and his unique contributions in Gerodontology, Prof. Susumu Nisizaki was selected by World Scientists Forum for "Eminent Scientist of the year 2003" International Award of I.R.P.C.

Centre of Excellence



Universidad de la Republica

Uruguay is located in South America. It is the second smallest country on the continent and its population is scarecely over 3 million. Montevideo is the capital of Uruguay, which is located in the southern part of the country and its population is over 1 million.

The "Universidad de la Republica" (University of the Republic) was the unique University in Uruguay between the second half of the 19th century and 1984. As it is a public insitution its characteristics allowed the establishment of a stron bond with the country's development.

Among the different faculties that constitute the "Univesidad de la Republica" (University of the Republic), Dentistry, which was originally dependent of the faculty of Medicine, became an independent Faculty in 1929. At the same time the Faculty of Dentistry had n academic development that positioned it in a relevant place within the region and other latitudes. Although the Faculty develops activities in different cities within the country its headquarters are in Montivideo. Its building was built in the 40s, it has a contructed area of 8.000 m2 and it is in constant growth to house at the pr4sent 2.500 students.

The Faculty of Dentistry has undergrduate and postgraduate activities. Concerning the undergarduate students their current Program was approved in 2002. This program has 5.090 attendance hours. Some characteristics of the currently applied Program are: interdiscipline, articulation with the socail environment and integral focus of the patient.

The Faculty of Dentistry also has an area for Auxiliaries in Dentistry, which expels three titles: Dental Assistant, Dental Hygienist and Dental Technician. Theses careers were added in 1960, so this fact positioned us as pioneers in the Latin American context. The post graduate activities are developed in our Faculty, by means of the Graduate school, which was also established in the 60s. It has an important activity concerning continuous education, to which in 2002 Specialists careers have been included. The first one to be dictated was the Speciality in Gerodontology. From this year on (2003) Maxillofacial surgery, Pedodontics, Prosthodontics, Oral Rehabilitation and Periodontology will be included. Within the Faculty the creation of a Support Foundation has been promoted and it has been officially approved.

7

Burning Mouth Syndrome In Old Adults Review, Personal Contribution and Six Clinical Cases

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SUMMARY

Burning mouth syndrome is a quite regular disorder in elderly people. It implies an unpleasant sensation, so to know how to treat it its knowledge is important. This syndrome has a flourished symptomatology and complex etiology (systemically and locally), what makes diagnosis and treatment difficult. In some cases patients have this feeling in the morning when they wake up, but it becomes acute as the day goes by. Some of them have it only some days, what means that it appears and disappears without any apparent reason. The objective of this article is to make a systematic review, organize this subject, make a personal contribution and describe six clinical cases to understand easily this syndrome. Each clinical case shows its singularities in the symptomatology, etiology and treatment. They are real cases and some of them are difficult to classify due to the signs and symptoms involved. What is also important and shown in the review is that psycho-physiological factors have a remarkable incidence on this syndrome.

Keywords: *burning mouth, sour mouth, diagnosis, etiology, classification, treatment, gender.*

INTRODUCTION:

Burning mouth is also known as stomatodynia, stomatopyrosis or oral dysesthesia. It is a quite regular disorder in elderly people, although some cases in young adults (28 year olds) are reported. It is not a disease, it is a symptom or a group of signs and symptoms (local or general) that may appear at the same time, that is why many dentists prefer to call it "burning mouth syndrome". Its symptomatology is extremely varied, but the most usual sensation is burning and sometimes tongue pain (glossodynia) associated or not with, the same sensation on the palate. In some patients tongue's trembling is described, other satellite sensations are taste disorders. The patient complains about sour, bitter or salty sensations. Sometimes taste is diminished or it might be lost.[1]

In some isolated cases burning mouth is described with a labial component or in the supporting mucosa of dentures.[2,3] Almost in all the patients these sensations are bilateral or they are located over the medium line. But studying carefully dental history some unilateral cases have been found; for instance during many years burning mouth on the right border of the tongue in its rearest position. Some patients have this feeling in the morning when they wake up, but it becomes acute as the day goes by.[4] Some of them have it only some days, what means that it appears and disappears without any apparent reason. That is why Lame and Lewis classify the burning mouth syndrome as: type 1 when it is an

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increasing sensation from the morning to the night, type 2 when symptoms are permanent during the day and type 3 if they are intermittent all day long.[5] The flourished symtomatology of this disorder is becoming more and more frequent. The diagnose has its difficulties and the prognosis is complex and sometimes uncertain. Many patients learn to live with this problem, although for others the burning mouth sensation is difficult to tolerate. The bibliographic research shows burning mouth's duration has been of 3 to 12 years [6]. Other report there is a variation between 1 month to 17 years, from which the average is 2.5 years.[7]

ETIOLOGY

In ageing people the burning mouth syndrome is associated with vitamin B12 or iron deficiencies, psychiatric disorders, xerostomia, mycosis, denture problems and so on.[8] The lack of vitamin B12 can cause pernicious anaemia and in many cases the first sign appears on the tongue, which shows a dark red colour or reddish stains all over it or patches on its dorsum and borders. Apart from this, it seems to be smoother and softer, tender to warm foods and liquids. The patient feels a burning sensation.

Mucosas are pale or yellowish, tender and intolerant to dentures, this symptomatology is in some cases associated with achloridia. Together with these oral disorders some general signs are observed like: incoordination and difficulty to walk, which in acute cases are treated with intramuscular vitamin B12.

Iron deficiency produces glossitis and fissures on the angle of the mouth. Tongue papillae are atrophied and the tongue is smooth and bright, as it also occurs with heavy smokers. Discomfort because of burning mouth becomes acute not only when ingesting hot liquids or hot foods, but also with soda or alcohol. For this reason cold and soft foods are indicated. These signs and symptoms increase in xerstomia or alcoholic patients. Glossodynia is common in psychiatric patients, with different types of phobias, cancerophobias, anxiety, depression, etc. [6, 9, 10, 11, 12] Stomatodynia is also associated with other pathologies like multiple schlerosis, candidosis, geographic tongue, hyperglycaemia, etc., even idiopathic etiologies are mentioned.[13] It is also necessary to remark that burning mouth might be linked to real mistakes in the prosthodontic treatment, which could be responsible for these disorders. For instance lack of free way space, artificial dental arch built with a very narrow design with lack of space for the tongue's functions. Sometimes an underextended denture base may overload the edentulous' maxillary ridges.

CLASSIFICATION

Burning mouth may be detected :
1) With visible clinical oral changes
2) Without oral changes

1) Burning mouth with visible clinical oral changes.

It can be promoted by nutritional deficiencies lack of vitamin B, anaemia produced by iron deficiency, diabetes and also in heavy smoking, alcoholism, Sjögren's syndrome, xerostomias, candidosis. All these disorders lead us to conclude that the patient's history has to be complete, as well as his nutritional evaluation.

2) Burning mouth without oral changes.

Unfortunately etiologically these are the most prevalent cases, almost 40%. But burning mouth with visible clinical oral changes, with different causes, represents the majority (60 %).[12, 14, 15, 16, 17] It is more common in adults and specially old adults, between 50 and 80 years old or even older. Within this group it is more prevalent in post and perimenopausic women than in men.[11] If a research of the patient's record is done antecedents of insomnia, anxiety, dizziness, chronic cephalgeas, depression and unbalanced marital and sexual status may be detected. Sometimes the patient says he feels as if very dense saliva flowed on one side of his mouth, from the palate to the pharynx. In fact there is no lesion but the patient has a burning sensation and also feels pain, so it must be treated. It is necessary to remember that pain exists for the patient, and it does not matter if it is psychosomatic. Usually they look for a treatment going from one professional to another, and sometimes the only answer they get is: "You can't possibly feel what you are saying" or "Don't worry this feeling will disappear" and so on. Actually in many cases there is a psychiatric component that the patient does not accept, that is why in these cases it is advisable to refer the patient to a geriatrist or a neurologist; this decision depends on the most prevalent symptomatology. It is important to remark that the installation of complete dentures (above all the upper one) may trigger off this kind of psychological disorder. Sometimes it is associated with a premature or psychologically very traumatic total loss of the teeth, in which the mourning has not finished yet. But why is the upper

denture the most important trigger off factor? Because hierarchically the upper anterior teeth have a more relevant role than the lower teeth concerning esthetics, appearance and self-esteem. The dentist must be aware of this fact because it deeply affects many patients.

PREVALENCE

This disorder has been studied for more than 20 years and the trend of its prevalence is similar in different countries. The classic study made by D.J. Zagarelli [16] reports the following data concerning burning mouth cases: 36.8 % have psychological causes, 26.3 % are linked with geographic tongue, 21.1 % are related to candidiosis and 12.3 % are combined cases (psychological disorder and xerostomia or candidosis).

According to R.M. Basker et al the prevalence in women is 4.2 % and 0.8 % in men. Because of burning mouth association with dry mouth syndrome, it is necessary to mention that the Sjögren's syndrome has a prevalence of 90 % in women, while the burning lip is more common in men. This means almost 40 % are psychological and the others are somathical cases. The last group would imply an easier treatment once the diagnosis is reached. They represent 60 % of the burning mouth syndrome cases. Many psychological stomatopirosis still do not have a diagnosis because scientifically it is necessary to know more about this syndrome.[18] Some authors like Bergdahl have discovered the association of burning mouth with temporomandibular disorders.[15] It is important to remember that many cases with this disorder also have a psychological and psychiatric involvement. Other etiologies related to burning mouth are: chronic cephalgias, dizziness, muscular pain or esophagus disorders.

The analysis of the etiology, classification and distribution of glossodynia cases has lead in the majority to an interdisciplinary criteria, searching a solution which is not easy to apply when it involves a psychiatric symptom.[1,19] To sum up burning mouth is a disorder or symptom, but not a disease. Dentists have to know about it to be able to treat it, to refer or to work within interdisciplinary teams. Prospectively it is an increasing syndrome, because the increase of the old adults cohort also causes the increase of psychosomatic disorders. The retrospective analysis which emerged from a systematic review leads to this conclusion. The meta analysis will show based on evidence, different aspects of burning mouth, like its etiology, prevalence, etc.

TREATMENT

If its etiology and classifications are analyzed it will be seen how varied and complex it is. All the treatments must be focused on its etiology. So a relationship must be searched between clinical signs and symptoms and their causes.

Burning mouth can be observed with clinical oral changes or with oral sensations but without a clinical manifestation. Using this classification as reference, different types of treatments will be described.

1) TREATMENT OF BURNING MOUTH WITH ORAL CHANGES

From clinical observation and the analysis of the patient's dental history, it can be deduced if burning mouth was caused by general or local problems.

a) General problems.

There are several disorders that can cause stomatopyrosis: nutritional deficiencies, anaemia, avitaminosis B[19], diabetes, xerostomia (because of general health problems or as a side effect of drugs), heavy smoking, alcoholism, etc.

The treatment will be successful if general factors are controlled. Certainly the most prevalent sign in these patients is dry mouth. If its cause is the Sjögren's syndrome at the moment it is not treatable, but if it is caused because of medicines, team-work can optimize the dose or substitute the drug for another one with less side effects related to saliva. It is necessary to remark old adults generally take a considerable amount of medicines which may promote xerostomia like: antidepressants, coronodilatators, tranquilizers, hypnotics, hypoglycaemiants, antiparkinsonians[20], etc. When the patient's history is studied, in many cases it can be proved that they have taken many of these medicines and for long periods (20, 25 years).

Another point are patients that have lost 20 or 30 kilos and keep on taking the same dose. Besides, the accumulative effects of many drugs has to be considered because in old adults there is a slow elimination of some of them. Consequently, professionals related to elderly people's health have to readjust the dose individually and change the medication for a less iatrogenic one, which should be part of a routine, but it is not.

Another fact is that old persons have and feel less thirst, so

they drink less water. They need to understand by means of motivation that they have to increase liquids in their diet. In general terms medication with sialagogues did not have good results and although it also has some contraindications, it must not be disregarded. Concerning this fact interdisciplinary work is also necessary. In this article when the clinical cases are presented the relationship between diagnosis, etiology and treatment will be shown.

b) Oral problems.

Reviewing the biography on this subject and the patients' histories there are many remarkable local factors that can be involved such as: bad hygiene, removable dentures installation (specially the upper denture), underextended dentures, new dentures with a narrow dental arch and not enough functional space, etc. Bad oral hygiene or the permanent use of dentures may produce paraprosthetic infections as candidosis. In this case candida albicans is sometimes the cause of burning mouth on the tongue and palate. Eventually xerostomia may contribute in candida's augmentation. It is also important to remember that as every opportunistic infection it may appear after a long treatment with antibiotics, responding to a general or local infection. Consequently, predisposition and immunologic factors have to be considered as well.

Oral candidosis is usually treated with an integral hygiene of the denture's supporting mucosas, tongue and denture. It is complemented with antiseptics, oral antimycotics[7] or local antibiotics such as nystatin (mouthrinse or ointment). The denture base has to be adjusted and occlusion must be improved to check if other etiologic factors may lead to stomatitis, which produces a predisposition to candidosis infection later on. If after improving oral hygiene, by cleaning the dentures thoroughly and immersing them in antimycotic products, the results are negative a general treatment with fluconazol must be performed. The dose would be of 50 mgr. per day during two weeks. It is important to remark that not all the prosthetic stomatitis cases, because of candida albicans, promote burning mouth. In general the other local factors are produced by the previously mentioned mistakes in the dentures which have to be solved. It is necessary to bear in mind that there are usually several trigger off factors at the same time. All these facts make the treatment of this syndrome more complex, but once the routine is acquired the diagnosis and treatment emerge quickly.

2) TREATMENT OF BURNING MOUTH WITHOUT ORAL CHANGES.

Generally it is admitted that there is a prevalence of psychologic-psychiatric cases [7], but some authors state these are few.[10] In psychological originated cases patients have no sign of local or general pathologies, however they complain about a mouth burning sensation which is permanent or periodical. In some opportunities it is not easy for the dentist to refer these cases to a psychologist or psychiatrist, although this might be the most direct action. When difficulties on this matter appear it is better to refer the patient to a physician, geriatrist or neurologist, etc. It is difficult for the patient to accept his situation, because for him the symptoms are clearly on his tongue, palate, etc. It is also true that few psychologists or psychiatrists are able to recognize this syndrome, what makes its management more difficult. Some reported cases begin with candidosis in the upper maxilla, but once it is treated and it disappears, the burning mouth sensation remains. This is observed in patients with a complete upper denture, and generally in old adults that did not accept the premature loss of their upper teeth. These are two typical cases of psychological burning mouth.

SOUR MOUTH

The sour mouth is a less frequent motive of consultation, but it is useful to know about its clinical presence and etiology.[21,22] Generally the patient says he has a sour mouth sensation, combined with oral dryness. These could be the side effects of the ingest of hypnotics, ciclopirolone (commercially Zopiclone) and also side effects of corticoids like methylprednisone. Sometimes it is associated with a metallic taste. Specially in patients that use sweeteners like sacarine. But not all of them produce this side effect of sour-metallic taste, for instance aspartans do not produce these problems. The metallic taste rarely appears in patients that have been taking antibiotics (like metronidazole) for long periods. On the other hand this might be a transitory effect during the treatment with these antibiotics.

BURNING MOUTH SYNDROME IN OLD ADULTS

Six Clinical Cases

To Understand its Etiology, Treatment and Prognosis in a Better Way

Everything is theoretical until clinical cases are faced, some of them are easy to diagnose and treat, but others are very

complex and do not have a feasible solution.

Clinical case 1:

Patient: S. A. de R. P., 75 years old

She is edentulous.

The patient says she has a burning sensation in the whole mouth but specially on her tongue. The symptomatology began three months before the first appointment. She also reports having gastroesophagic refluxes and some years before helicobacter pylori infection. She also suffered nausea for four months and dizziness during the last four years. She cannot drink anything hot nor soda because it worsens the disorder. The patient feels thirsty and drinks water all day long. Clinically her mouth is dry, her tongue shows glossitis

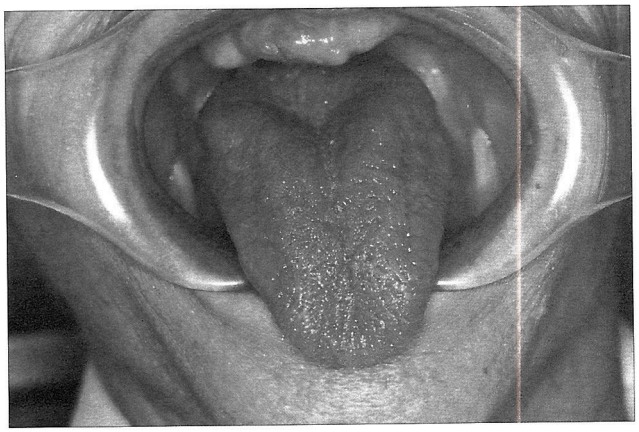

Fig. 1

and fissures on its dorsum, and a coated tongue is detected. (Fig. 1) There is no candidosis. The stimulated saliva secretion is not measurable. In spite of requiring a deeper study of the symptoms it can be said that the patient has the burning mouth syndrome.

Its main cause is the dry mouth which is promoted by the antidepressants she has been taking for 20 years. The other secondary factor can be her nervous condition. In this case the combination of both may be the trigger off factors of the burning mouth syndrome. She is referred to a psychiatrist to balance and change the medication for another one without or with less side effects related to the salivary glands. The patient is also referred to a gastroenterologist because of refluxes and her antecedents of helicobacter pylori infection. The antidepressant is changed. After one month the salivary secretion is almost normal and the most important fact is that the patient does not feel the burning mouth sensation anymore. She is still being treated by the gastroenterologist.

Clinical case 2:

Patient: L. G., 75 years old

She is edentulous and she comes to the dental office looking for a prosthetic treatment. She says she has a burning sensation on the tongue's dorsum, palate and lower throat.

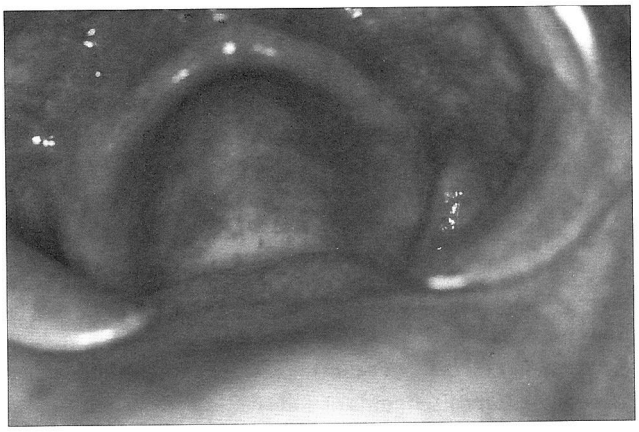

Fig. 2

She also tells us she is in treatment because of gastroesophagic refluxes. The clinical examination shows a generalized palate candidosis, which is extended to the whole supporting mucosa of the upper denture. (Fig. 2) However the tongue seems to be normal. The sialometry shows the quantity of saliva has diminished. Candidosis is treated improving the oral and dentures' hygiene. Besides the upper mucosa was treated with nystatine and corticoid's ointment, but this local treatment was not enough. The infection diminished but it did not disappear. Then it was suspected that may be the burning

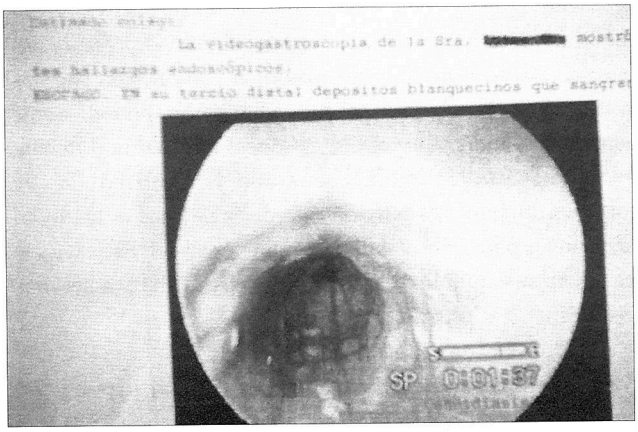

Fig. 3

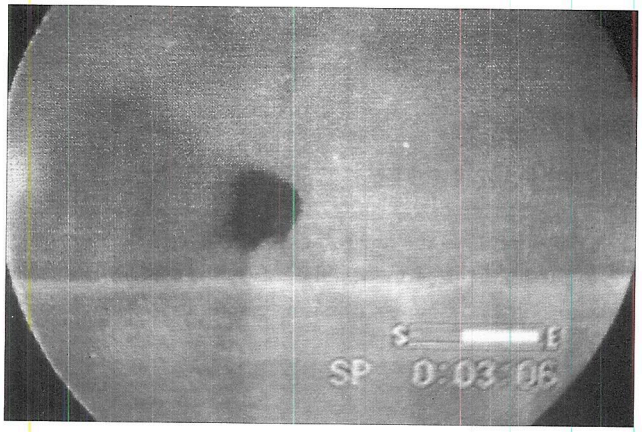

Fig. 4

throat could be related to the oral signs. She was referred to the gastroenterologist and an esophagic candidosis was confirmed with the videoendoscopy. (Fig. 3) She was systemically medicated with Fluconazol medication during three weeks (50 mgr. per day) and both problems disappeared. (Fig. 4) There was no longer a burning mouth sensation and the patient said "I don't feel a sore throat when I'm eating hot meals, liquids or sodas".

Clinical case 3:

Patient: L. N. T., 69 years old

Referred by a geriatrist because of burning mouth sensation. She has natural teeth in the mandible and a removable partial denture on the maxilla. She has been suffering from this syndrome for four years and a half. The feeling is permanent and it appears suddenly. She says she has lost 21 kg. during the first year with this disorder. The only moment in which she does not feel anything is when she is asleep. She takes tranquilizers to sleep because of insomnia problems. During many years (no exact dates) she was given medication for hypertension, but now her blood pressure has become stable. Studying her history it can be seen she has suffered headaches during her menopause period. Some aspects to remark are vomits, dizziness and red and itching eyes. The burning mouth sensation is localized on the tongue's dorsum, specially on the edges. She has difficulty to taste meals particularly if they are salty or sweet. She says she has more sensitivity in her teeth. She tells us she is a nervous person.

Her menopause began at the age of 52 and it was quite normal, she just suffered "warmth and suffocation". She was not given hormones. During the conversation the patient makes pauses and she wets her lips with saliva. She had consulted several professionals: dentists, physicians (gastroenterologist, geriatrist, dermatologist). There were no results after treatments with corticoids, vitamins, etc. Besides tongue and throat microbiological studies do not show any peculiarity. The clinical exam shows several fillings in her

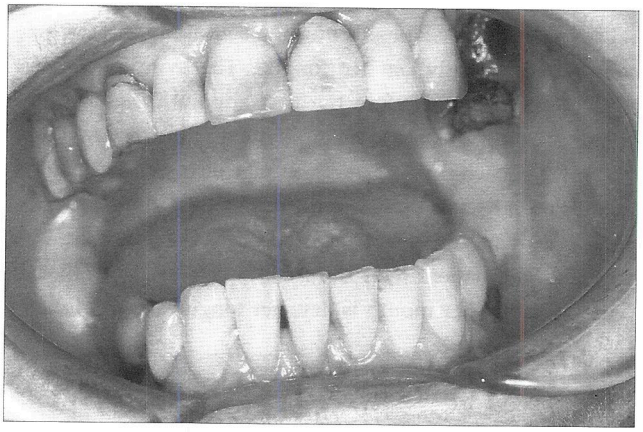

Fig. 5

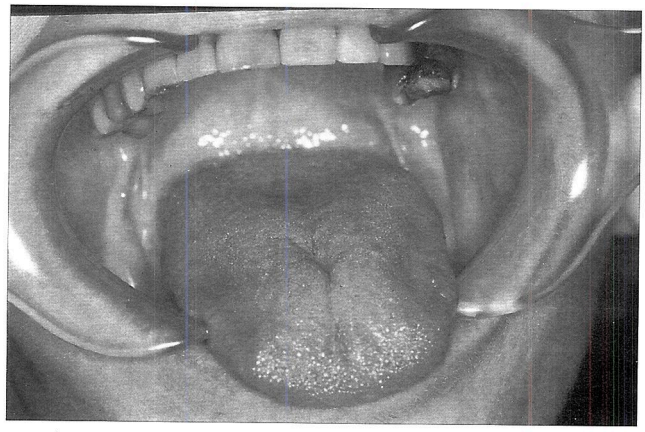

Fig. 6

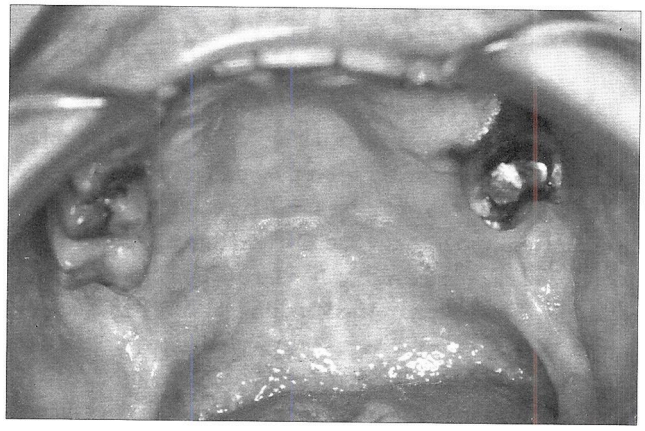

Fig. 7

teeth. Mucosas and tongue are quite dry, while there is a foamy saliva which is typical of dry mouth. (Fig. 5, 6, 7) She has a coated tongue on its posterior third, what is increased by saliva hyposecretion. The saliva stimulated per minute test is done and the result is 0.8 cm3 per minute (normal between 1.0 to 2.0 cm3 per minute). Studying her history, but specially the medication she has taken to improve her nervous condition, insomnia and hypertension for over 20 years, it can be presumed the side effects of these drugs produced the dry mouth and as a consequence the burning tongue. The patient asked about the aspect of the tongue's ventral surface, which showed a typical sign of oral ageing, sublingual varicosities. But she was told they had no pathologic meaning. To sum up the patient had the burning mouth syndrome or stomatodinia associated with dry mouth, in which the psychological profile played a very important role.

To complete the diagnose it will be necessary to study this aspect more deeply. If there are no articular problems this one can be a primary Sjögren's syndrome. Treatment: she is told to optimize her daily liquids ingest. To take sialagogo (tritionetal 25 mgr.) 6 pills per day. To soothe the dry mouth, artificial saliva in spray is recommended. After one month of treatment the saliva secretion increases from 0.8 to 1.0 cm3. But she says she does not feel any oral improvement, although she is better concerning taste and the eye itching. Two months later the saliva secretion rises to 1.5 cm3, she has no longer the burning sensation on the tongue. Taste keeps improving. Sialagogue decrease to 3 daily pills is indicated. The patients highlights she has put on 2 kg., which she could not gain during the last three years. After nine months in her appointment she says in the last two months she has been suffering burning mouth again and a dry lip sensation appeared. The dry mouth sensation began on her lips. She also says she has lost her appetite, confessing for the first time she suffered abulaemia in 1997 (April to July).

Treatment: she continues only with artificial saliva. She gave up the sialagogo treatment and was advised to start with it again.

Clinical case 4:

Patient: N. T., 75 years old

Upper maxilla totally edentulous. Inferior maxilla partially edentulous. The patient was referred by a geriatrist in July 1986. She had dry mouth sensation produced by Sjögren's syndrome, which was diagnosed in December 1993. (Biopsy report). Clinically she presents oral and ocular dryness. In general, mucosas have a marked inflamed aspect, but particularly gums. The tongue has a severe glossitis, its color is red/violet and it has a bright aspect. (Fig. 8) The geriatrist informs the patient has arthritis and rehuma in her knees, cervical and lumbar column. These facts indicate this is a secondary Sjögren's syndrome. The stimulated saliva per minute test is null. To the questionnaire she answered she had a burning sensation on the tongue and that was why she was referred. To soothe the burning and dry mouth sensation she is told to continue with the artificial saliva and to drink a lot of liquids.

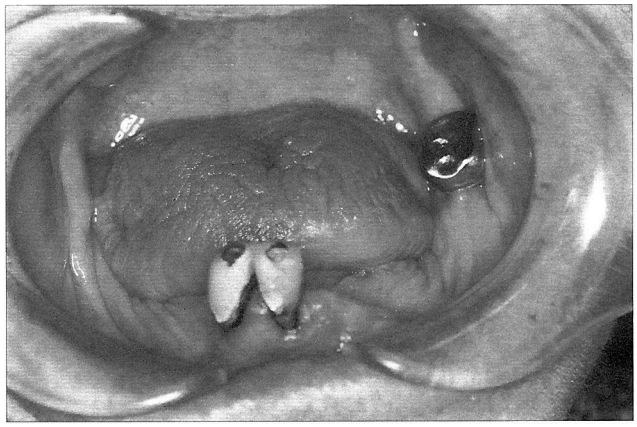

Fig.8

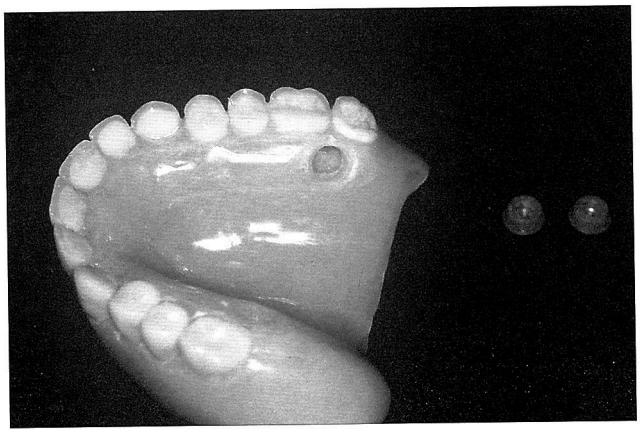

Fig.9

While at the same time an upper complete denture with an artificial saliva reservoir (Fig. 9, 10 11, 12) and an inferior partial removable denture with soft base material were built. (Fig. 12, 13, 14) As time went by the Sjögren's syndrome worsened, extending to other organs. She has a delicate prognosis.

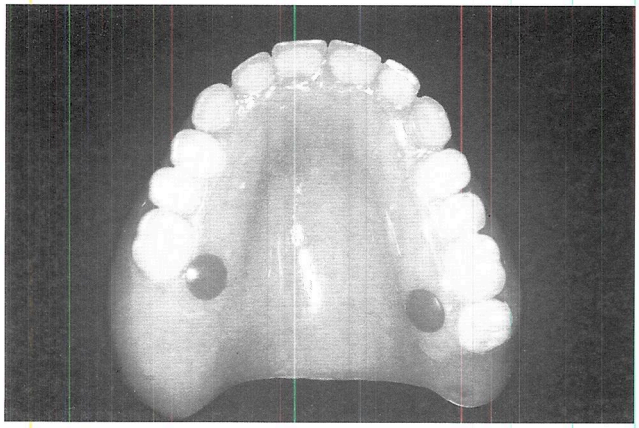

Fig.10

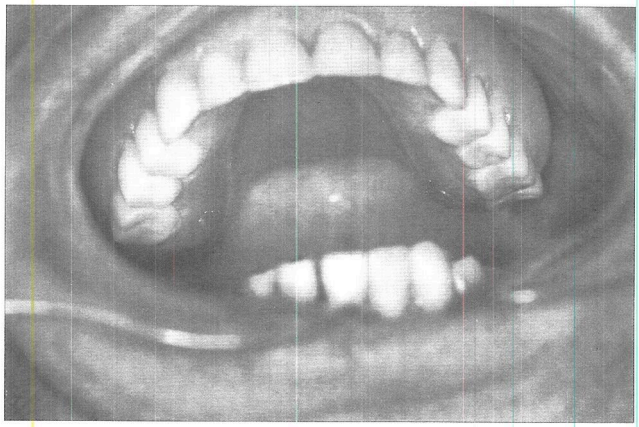

Fig.11

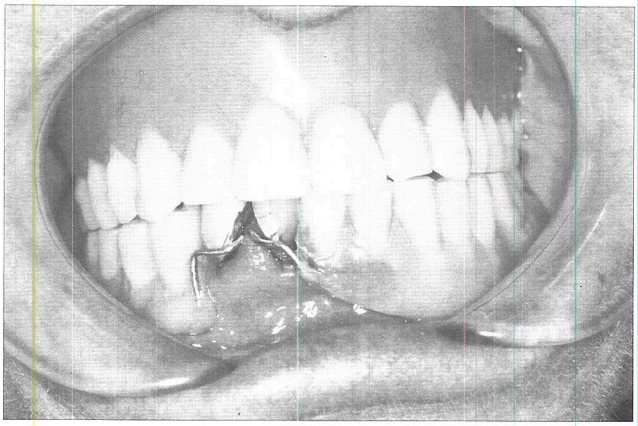

Fig.12

Clinical case 5:

Patient: I. Ch., 79 years old

The patient was referred by another dentist because of prosthetic intolerance. She has an upper complete denture

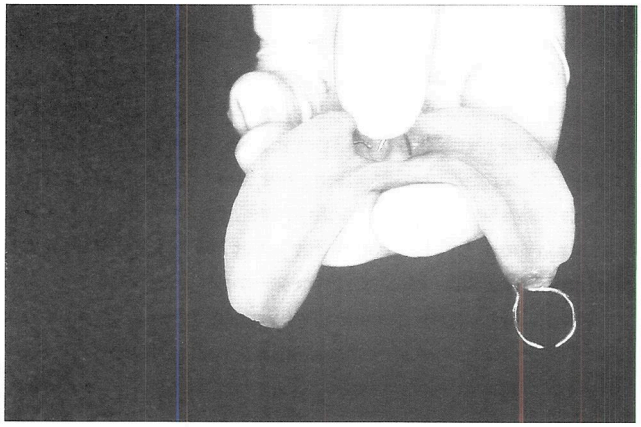

Fig.13

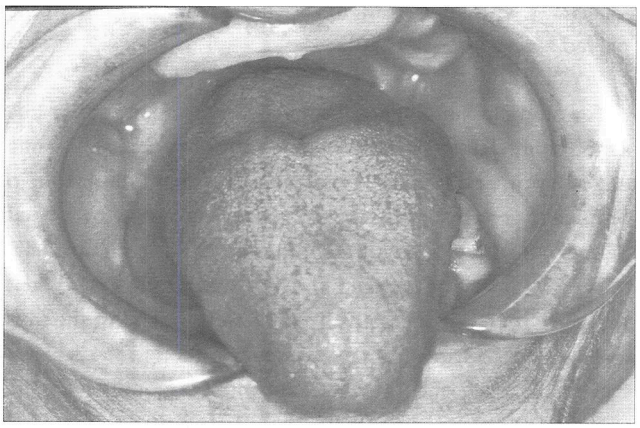

Fig.14

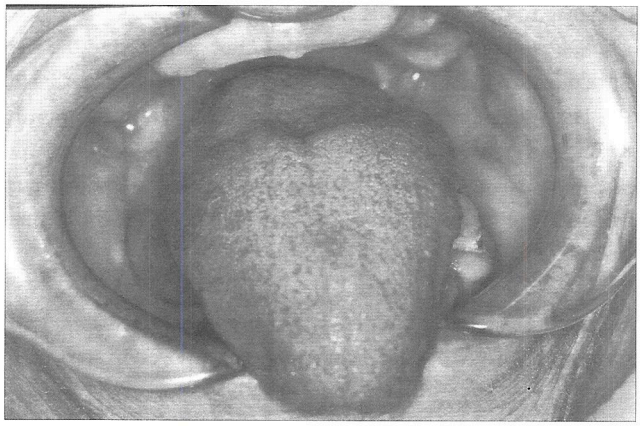

Fig.15

and inferior partial removable denture. Symptomatology: tongue, palate and lips' burning sensation. Clinically her mouth was almost dry and with a coated tongue (Fig. 15). The stimulated saliva per minute test showed 0.2 cm3 per minute. There were antecedents of cephalgias, hypertension, gastritis, refluxes, oral mycosis. She is told to optimize the medication.

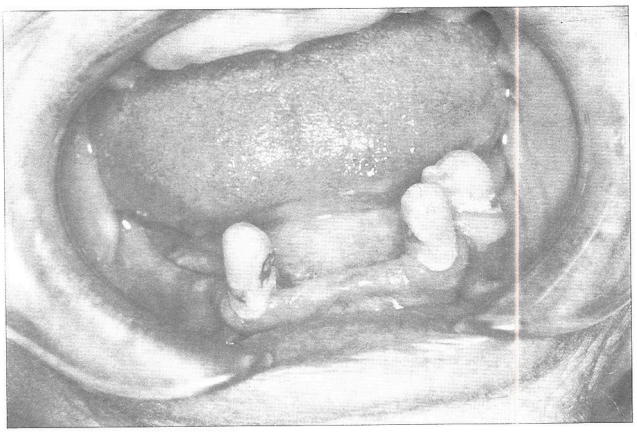

Fig.16

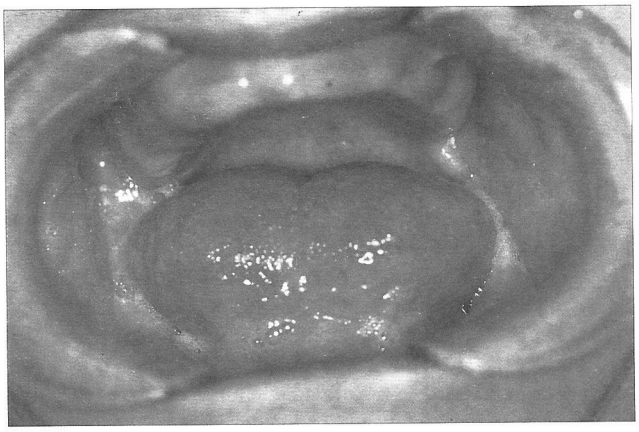

Fig.17

It was changed for another one with less side effects concerning salival secretion. She is advised to improve the quantity of liquids per day: 2.5 liters. Besides she is given sialagogo to stimulate salival secretion (25 mg. of tritioanetal) 6 pills per day during one month. Surprisingly the stimulated salival secretion per minute normalized. One month after the first exam it reached 2.1 cm3 per minute. (Fig. 16). The quick change in such a short period of time drew our attention, because after treating old adults with xerostomia for 30 years, never were results like this observed. Anyway the burning mouth sensation did not disappear or change. After two months of treatment saliva secretion maintained its normal value concerning its quantity, although clinically it seemed to be a little more dense. The burning mouth sensation continued. It can be assumed that it was a burning mouth with a psychological basis.

Clinical case 6:

Patient: G. G., 77 years old

She came to the dental office looking for a total bimaxillar prosthetic treatment. Among her antecedents, during many years treatment for her nervous problems must be reported. She had severe insomnia problems for which she had been receiving treatment for years. The quantity of drugs she took must be remarked, and also the consequences polipharmacy implies particularly in this case. She said she had burning mouth and metallic taste in a discontinued way. Lesions were detected in the upper and inferior maxilla because of the old prosthesis. When the new prosthetic treatment was finished the patient went though different periods, in some of them she was very well, happy, positive. But there were periods in which she said she had difficulty using both prosthesis. She said: "sometimes I feel they are loose", "I feel they are rough", "I feel the upper teeth are long", "food sticks on the dentures", "there are periods in which my mouth, palate, tongue and lips burn". Concerning the oral examination there was saliva decrease, but it was not very pronounced and saliva was foamy. (Fig. 17). In some way the symptomatology's discontinuity and the patient's history lead us to conclude this was a burning mouth case with a psychologic-psychiatric basis.

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