

Treatment of Edentulous Patients Having Exaggerated Gag Reflex with Palateless Upper Denture

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الخلاصة

الرغبة في التقيؤ اللاإرادي واحدة من المشاكل الرئيسية التي قد تواجه بعض الأشخاص الذين يستعملون الطقم الكامل. هذه الدراسة أجريت على عشرين مريض يعانون من هذه المشكلة من المرضى الذين يراجعون العيادة التعليمية لصناعة الأسنان في المعهد الطبي التقني/بغداد. لقد تم تزويد كل مريض منهم بطقم كامل علوي لا يغطي سقف الفم، وقد أوضحت النتائج أن تلك الأطقم كانت ثابتة ومريحة مع قدرة جيدة على التذوق بوجودها في الفم عند 18 مريض منهم خلال فترة ستة أشهر من المتابعة بينما اثنين فقط منهم لم يستطع التكيف مع هذا النوع من الأطقم. لقد تم الاستنتاج أنه من الممكن التغلب على هذه المشكلة باستخدام هذا النوع من الأطقم.

Abstract:

Gag reflex is one of the major problems that may face some complete denture wearer. This clinical study was conducted on twenty patients suffering from gagging reflex selected from hundreds attending teaching clinic of medical technical institute in Baghdad, each patient received a palateless upper denture.

The results showed that the palateless dentures were retentive, comfortable and permit good taste for eighteen of them after six months follow up, while two patients cannot accommodate to their dentures.

It was concluded that such a reflex can be overcome by constructing such dentures.

Introduction:

The gag reflex is a somatic natural response in which the body attempts to eliminate instruments or agents from oral cavity by muscles contraction^[1], and it is mediated by mechanoreceptors in superior laryngeal nerve which project to nucleus tracus salitarius^[2,3].

It has been generally classified as either somatogenic, or psychogenic^[4,5,6], psychogenic gagging is induced by anxiety, fear and apprehension^[7], all the possible causes must be investigated rather than placing the blame on the psychological make up of the patient^[8], gag reflex that are hyperactive for whatever reason are not uncommon and presents a problem for the dentists, particularly in making impressions or fit a prosthesis^[9,10].

Gagging can be disruptive to dental treatment and may be a barrier to patient care, preventing the provision of treatment and the wearing of prosthesis^[11].

It is a serious problem because failure to overcome this reflex may leave the patient permanently edentulous, an esthetically and nutritionally unsatisfactory outcome, which is attributed to severe oral changes (bone resorption, temporomandibular joint problems, vertical dimension changes, etc)^[9].

Management of such patients includes a complete oral examination, medical history, and conversation with the patient are important sources of information to assist with the management of gagging problems. Many techniques are available for controlling the patients but no single technique will solve each patient's problem in addition the services of trained specialists are needed to help with behavioral management of the problem^[12].

Several treatment approaches can be used for management of such a reflex in prosthetic patients such as advocated hypnosis or various medications such as sedatives, antihistamines, parasympatholytics and topical anaesthesia^[13,14,15], or topical anaesthesia with lidocaine spray^[16].

Relative analgesia also termed inhalational sedation may be employed to facilitate the taking of dental impressions with such patients^[17], even psychotherapy had been recommended^[18].

Psychological factors include the preparation of the patients and their mental attitudes towards dentures, their relationship with and attitude toward the dentist, their intelligence and ability to learn how to use the dentures and their responsibilities^[19].

In addition to all treatment procedures described earlier, the use of palateless complete denture may be another solution for the problem despite the contravention of palatal uncoverage in upper complete denture.

Palateless complete denture has some merits for upper edentulous patient, following the uncovering of the palatal portion, the patient becomes easy to talk and restores the lost good taste and it is a compatible alternative for upper edentulous patients in cases of gagging and large palatal tours^[20].

The aim of this clinical study was to treat prosthetic patients that had hyperactive gag reflex with palateless upper dentures with clinical follow up 6 months interval.

Material and Method:

In this clinical study the sample consists of twenty prosthodontic patients with gag reflex among hundreds seeking prosthetic treatment attending the teaching clinic of the medical technical institute in Baghdad, their age range was between 59-75 years old from the 1st of October 2008 until the 1st of May 2009.

Oral examination was carried out to exclude any pathological problems, radiological examination was done for the denture bearing area which was a

well developed residual ridge mouth mirror and finger palpitation was used for examination, previous dental and medical histories were taken, three patients were controlled hypertensive and two of them were controlled diabetics so they were considered normal people.

The first step in denture construction is primary impression taking, and that was an important step to start with, because if we couldn't gain the patient's confidence, then we won't reach him, this step in our work was pleasant and painless, we use diazepam (2mg) one hour before impression taking ⁽¹⁵⁾ for all the patients and five of them needed further more the application of topical anesthesia (spray) on the palate to reduce the severity of the reflex during impression taking, in addition a proper amount of thick consistency alginate impression material were used to prevent overloading of the tray which will cause gagging, then a model was casted and outlined 2-4 mm shorter than all the moving tissues on the labial and buccal sides, while on the palatal side the line was u-shaped situated approximately 10 mm from the dental arch ^[21]. A shellac base plate was fitted and trimmed to the line; wax bite block was placed on the base plate.

Final impression was taken, using the "closed mouth technique" with zinc oxide eugenol impression material and load inside the shellac base plate after the vertical dimension had been registered by conventional way of registration, and good muscle trimming was done all around the peripheries.

All the patients were taught how to breathe during impression taking by having deep breath from the nose, and then blow the air from the nose too, the patient should concentrate on that matter because it was important to him, as he was told by the dentist to drive the patient attention from the fear of gagging occurrence. The trial denture was ready which was palateless to convince the patient that it was really palateless one fig-1.

The laboratory steps were done in the usual manner except instead of making a posterior palatal seal (post dam) a line of 1mm depth was carved in a U shape manner approximately 10mm from the dental arch at the palate of the patient just as we do a food dam in a normal partial denture. Good border sealing of the palatal flange was done and minimizing the prominence of the denture flange was also performed and reduced as thin as possible for more comfort, while for the artificial posterior teeth they were arranged over the crest of the alveolar ridge and inner incline of the buccal cusp was relieved to help in denture stability during chewing.

Waxing, Carving, Flasking, Packing and Finishing were done in the usual manner of complete denture construction.

The last step was denture insertion for each patient.



Fig-1

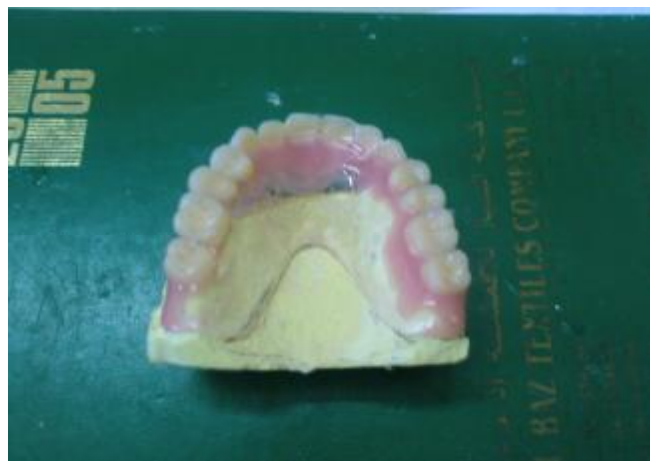


Fig-2-A



Fig-2-B

Results:

The results in this study showed that five patients did not need any adjustment for their dentures but they attend the clinic for the follow up as they were told to do so in two weeks interval at first and then once a month for six mouths.

Other eight patients came to the clinic once after two weeks complaining from pain in the buccal and labial vestibules (over extensions) and facing some difficulties in wearing their dentures, adjustment was done for them and they were happily satisfied.

Another five attended the clinic two times in one month period complaining from pressure areas and difficulties in chewing & tolerating their dentures , those patients were having complete lower dentures so they instructed to wear the upper dentures alone for a time and then the lower ones after that and adjustment was done for the pressure areas.

As a conclusion eighteen patients out of the twenty supplied with palateless complete denture were able to wear their dentures continuously eventhough they needed some adjustments and time for adaptation which took about (2-4) weeks until complete satisfaction was reached. The remaining two patients could not accommodate their dentures until now.

The treatment was followed up with a two months review at first all the eighteen dentures still being worn, they were completely effective and worn successfully, the retention of these dentures seemed to be as good as those of full upper dentures of normal design.

Discussion:

The most important fact a patient must understand is that the final cure is in his hand and if he couldn't help himself no one could help him when the treatment procedure is good.

It was proved in this study that palateless upper dentures are perhaps surprisingly easy to make and stay in position unexpectedly well, there is therefore every reason for confidence except possibly one; the patient may be so conditioned by the result of a previous attempt as to expect failure, this is indeed a bad way to start because a fear or expectation of failure may get to denture failure.

Once a patient really feels that the new treatment is going to work it probably will do, so this is our aim, and we were trying to do this for our patients.

The most expected problem that we were afraid to face in our work result is the retention of the palateless dentures but for our patient this was not a major problem because all eighteen subjects stated that their dentures were retentive especially in chewing & this was in agreement with folystrand, F. et.al. 1986^[21]. who stated that the ability to withstand tilting loads was insignificantly altered

by reduction of the palatal coverage and that the retention of dentures during meals remained unchanged.

The gag reflex was not a problem for our patients after supplying them with the new palateless dentures as patients admit this fact, also the adaptation and the taste feelings were very good for them and this is in agreement with Song, E.H. et.al. 1999^[20] who stated in a case report that palateless complete denture will restore the lost good tastes and more comfortable and physiologic to upper edentulous patients and a good alternative to full palatal coverage complete denture in the properly selected cases.

Our findings were also in agreement with farmer & Connelly 1984^[5] and Farrell, 1976^[22] who found that good palateless dentures were completely effective, and worn successfully in about nine out of ten patients for whom they were the last resort, and who would not be able to live normally without them.

The new techniques in implantology may be a saviour for the two patient that cannot tolerate palateless dentures in our study, but because of its high cost the patient can not afford to have implants and we suggest to have an insurance companies to help people in the future to have medical and dental treatments.

Conclusion:

The use of palateless upper denture for the patient with gag reflex was successfully done in patients suffering from this reflex and it was effective, retentive, and restore good taste so we can use it widely and especially with patient having partial dentures which progress to be a complete denture wearer.

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