Case Report

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Tongue Thrust in Adults

Tongue thrust often goes undiagnosed causing serious oral conditions which, if properly treated by a competent dental speech pathologist, can alleviate great stress in adult dental patients.

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Tongue thrust, or reverse swallow, is evidenced by the incorrect placement of the tongue between the upper and lower teeth in swallowing or at rest.¹ Most dentists and speech pathologists associate the term "tongue thrust" with concomitant speech problems and malocclusions that may require orthodontic appliances. From her own files, the author cites case histories of adults who developed serious oral conditions as a result of tongue thrust conditions.

Prosthodontists have reported that lower full dentures of tongue thrusters are dislodged by the sublingual muscles during swallow. Loss of bone results from the patient's attempt to keep the dentures in place and the sublingual muscles' ejection of the dentures. Prosthodontists strongly suggest that such a patient should have oral myo-therapy (tongue thrust correction) as well as prosthetic correction. The upper dentures do not present as severe a problem as the lower dentures.² A patient with an upper partial or complete denture that is constantly dislodged will habitually clench his teeth in an effort to keep his denture up. Subsequently, temporomandibular joint problems may develop due to the preexisting undiagnosed tongue thrust.³

After discontinuing the use of a retainer, a 20 year old male noticed the shifting of his teeth. One of the causes of tongue thrust, ankyloglossia, was observed when the patient was referred for tongue thrust correction. At that time, a frenectomy was performed by an oral surgeon. After the cessation of therapy, no further shifting of the teeth occurred.

In another case, a 40 year old female tongue thruster was referred by a periodontist who advised, "The dental problem is that she is hitting primarily on the molars. No matter how we ground down the molars, in a period of months or a year, the patient reopens the bite and would be hitting the molars again. As a result, the molars are usually lost in time. If the tongue can be controlled, once we grind the molars, shifting of the teeth will not occur. Sometimes, after the tongue gets out from between the teeth, we do not have to do the grinding." This periodontist stated that loss of bone was due to the tongue thrusting problem and recommended oral myotherapy. The pressure of the tongue against the patient's teeth was so great that the impression of the teeth could be seen on the tongue. (Fig. 1) Only the area where the tongue exerted pressure on the teeth showed gingival recession.

A periodontist referred a 26 year old female patient for oral myotherapy. The tongue thrust condition had caused shifting of the teeth. (Fig. 2) The patient is now in therapy.

An illustrative case is that of a 26 year old female who had worn orthodontic appliances for seven years. Fig. 3 and Fig. 4 show the regression of the occlusion within a year after the removal of the orthodontic appliances. Barrett and Hanson stated that most orthodontists agree that the presence of tongue thrust hinders the progress and threatens the permanence of the results of orthodontic treatment.⁴ Due to grinding of the teeth in her sleep (bruxism), the patient was seen by a periodontist. When the periodontist recognized the tongue thrust condition, he referred the patient for oral myotherapy. The result of the grinding is seen in Fig. 5. Bruxism is a myofunctional disorder due to muscle tension caused by muscular imbalance. Graber stated that there is a strong correlation between malocclusion and "night grinding." Certain sensory and proprioceptive impulses are involved with bruxism and temporomandibular joint disturbances.⁵ The impression of the teeth on the tongue was noticed (Fig. 6) and gingival recession (Fig. 7). After six therapy sessions, the grinding of the teeth ceased. An exercise was given for the stretching of a tight frenum which resulted in more freedom of the movement of the tongue and thus the normal swallow was produced with ease. After the tongue is controlled, the occlusion can be properly adjusted.

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Fig. 1. Impression of teeth on tongue.

Fig. 2. Tongue thrust condition caused shifting of teeth.

Fig. 3. Regression one year after removal of braces.

Fig. 4. Regression one year after removal of braces.

An unidentified tongue thrust condition resulted in a 16 year struggle of a 34 year old female patient to alleviate pain, discomfort and esthetic embarrassment of a partially unerupted tooth. Originally, the patient was seen by an orthodontist as the right lateral incisor had never completely erupted causing a lateral open bite (Fig. 8). The orthodontist advised the patient that appliances were not needed, but the teeth were ground to improve the occlusion and the unerupted tooth was reshaped to allow space for its eruption. This procedure did not produce the desired result and tongue thrusting continued shifting the teeth. Consequently, the patient's teeth were continually ground to balance the occlusion. The patient had history of myofascial pain and thus only soft food could be eaten. Surgery on the temporomandibular joint was advised, but the patient refused. Her teeth were very sensitive after long periods of speaking due to pressure of the tongue on the teeth. Because of the receding gingiva, the patient was advised by another dentist to have a gingival graft. This, too, she refused. In spite of her youth, lines were evident on her face due to strain and pain. A third dentist advised capping the teeth as treatment for pain caused by bruxism. Finally, a periodontist recognized the problems were due to tongue thrust and referred the patient for oral myotherapy. After five therapy sessions, the patient no longer suffered pain, could then eat all foods, lines were gone from her face, and it was no longer necessary to have her teeth capped. Bruxism ceased. Fig. 9 shows result after 15 therapy sessions; Fig. 10 indicates occlusion prior to therapy and Fig. 11 demonstrates some improvement after 15 therapy sessions. The patient is still in therapy. Had the tongue thrust condition been diagnosed when she was a teen ager, all the discomfort, 16 years of unnecessary dental expense, pain and the embarrassment of a smile that exposed the open bite—probably would have been alleviated.

A basic technique of the dentist is occlusal equilibration. Given a mouth under the influence of normal function, this procedure can be most effective. "When, the patient has even a mild anterior thrust, there can be unwelcome sequelae. Second molars, held out of occlusion by the interdental tongue tip, may start to supererupt, opening the bite still more. Repeated grinding on the occlusal surfaces may lead to destruction of the second molars. At that point, first molars may begin a similar eruptive pattern. We have seen several tongue thrusting patients, 30 to 50 years of age, who have undergone equilibration, with few teeth remaining distal to the bicusps."⁶

Fig. 5 Result of bruxism.

Fig. 6 Impression of teeth on tongue due to tongue thrust.

Fig. 7 Gum recession due to tongue thrust.

Fig. 8 Uncompleted eruption of right lateral incisor due to tongue thrust.

In some types of myofunctional disorders, normal pressure is transferred from occlusal to lingual tooth surfaces. This may threaten the integrity of the temporomandibular joint. A variety of TMJ problems may ensue.⁶

One speech pathologist and myofunctional therapist stated that 80% of her patients have TMJ dysfunction. In her initial examination, she looks for (1) pain upon palpation of the masseter and temporal muscles, (2) joint clicks upon opening and closing, (3) limited opening, (4) deviation of the mandible upon opening, (5) fullness or pressure in the ears, (6) tinnitus and (7) the frequent occurrence of headaches.⁷ These are the symptoms of a TMJ dysfunction problem. It is a wonderful service to have this problem diagnosed in its infancy.

Another problem that dentists have described as "a difficult patient" is caused by a tongue thrust condition. Most tongue thrusters have difficulty swallowing with open mouth position. To swallow, tongue thrusters generally extend the tongue forward, contacting upper or lower anterior teeth or both and close their lips tightly before they can swallow. The "difficult patient" fears choking, is reluctant to have dental treatment and labels himself a "difficult patient." With fingers, drills, cotton rolls how can the mouth be closed to produce a reverse swallow? A tongue thruster is usually a "difficult patient."⁸

Fig. 9 Result after 15 therapy sessions.

Fig. 10 Occlusion before therapy.

Fig. 11 Result after 15 therapy sessions.

A tongue thrust condition should not be neglected when recognized. Oral myology or tongue thrust therapy should be initiated by a competent, conscientious speech pathologist so that adults need not be annoyed with shifting teeth, pain, TMJ problems unerupted teeth, endless expense, unhappiness, gingival recession, bone destruction and inability to wear dentures if associated with tongue thrust. The tongue thrust patient would no longer be labelled "a difficult patient."

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