Case Report

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The records of the patient in this report cover a span of twenty-three years. The patient was an 11 year, 8 month-old male. He had a normal birth, and suffered the usual childhood diseases without complications. His medical history was negative.

The patient presented with a Class I occlusion. All permanent teeth were erupted except third molars. The maxillary incisor teeth were inclined labially and slightly protrusive, but were in contact with the lower incisors. The overbite was moderate. There was good interdigitation of the buccal teeth. The arch forms were good and there were no rotations. Arch length was slightly excessive in both maxillary and mandibular arches. The malocclusion was considered mild (Fig. 1) and muscle balance was good. The lips were closed in repose with no apparent muscular strain. There was, however, a fullness and protrusiveness of the profile (Fig. 2).

Intraoral radiographic examination—All hard tissues were apparently normal. There were small occlusal restorations in three of the first molars. All third molars were forming and the alveolar bone normal.

Cephalometric evaluation—A Downs' analysis indicated a reasonably good skeletal or facial pattern except for the angle of convexity which fell well outside the normal range of variation. The denture pattern or relationship of teeth to facial pattern was very poor. All readings were outside the normal range of variation and extreme.

Treatment Plan—No corrective treatment was recommended. The patient was placed under observation and seen several times during the course of the next three or four years. Each visit the recommendations remained the same, namely: to accept the case as was. At the age of fifteen the patient was back in the office requesting that treatment be again considered as he was displeased with the appearance of his teeth and face. There was no significant deterioration of the occlusion. A lateral headplate and facial photographs were taken. Excellent growth, both quantitatively and qualitatively, was being experienced. The profile of the face was changing but still remained convex (Fig. 3). Once again the patient was advised to accept his case as it was and dismissed from the office. The persistent demands of the patient for treatment brought him back to the office at the age of eighteen. He pleaded for treatment of his problem and this time convinced the orthodontist to treat his condition. With the proper understanding of the patient, four first bicuspids were extracted to meet the objectives of improved facial esthetics.

The cuspids, second bicuspids, first and second molars were banded and sectional arches with loops used to retract the canines. Subsequent to canine retraction, which took only three months, the upper and lower incisors were banded and full .018 round arches with loops used to retract the incisors. Rectangular .022 x .028 arches with loops were placed to finish space closure and later .022 x .028 ideal arches were inserted to finish. Class II elastics were used fifty per cent on the right side only for a period of three months. Total treatment time was seventeen and one-half months. The occlusion was retained by a lower cuspid-to-cuspid and a Hawley for the maxillary teeth.

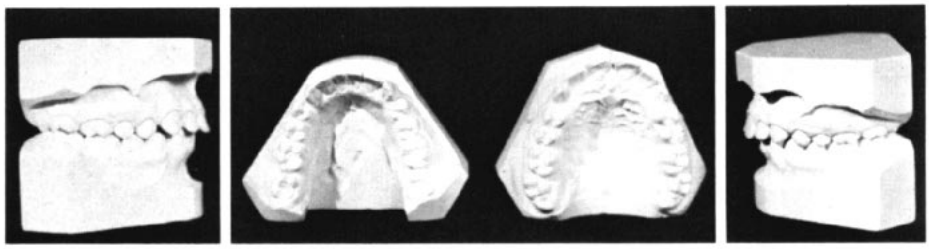

Fig. 1 Pretreatment models.

Fig. 2 Pretreatment photos.

Fig. 3 Pretreatment photos, four years after photos in Figure 2.

Fig. 5 Retention photos.

An acceptable occlusal relationship had been achieved (Fig. 4). It appeared from the models that the maxillary incisors lacked adequate lingual root torque. The third molars were nearly fully erupted and in good position. Although facial contours had been improved, they still could not be considered ideal. Muscle balance was considered good (Fig. 5). The health of the oral tissues, clinically and radiographically, had not been jeopardized. Superimposed tracings of before and after treatment from ages 11 years, 8 months to 20 years, 11 months showed excellent growth (Fig. 6). Skeletal

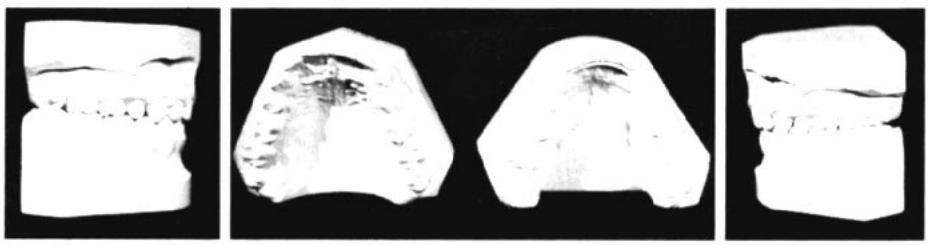

Fig. 4 Retention models.

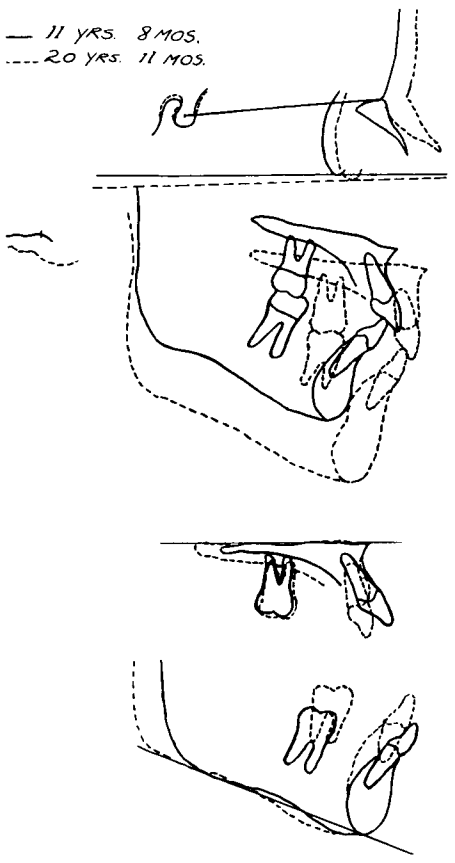

Fig. 6 Tracing from 11 yrs. 8 mos. to 20 yrs. 11 mos. Superposed on SN at S.

changes during the period were not very great. A rather constant pattern was being maintained. The slight skeletal changes tha did occur were considered unfavorable but not significant. Dental relationships were generally improved to an acceptable degree. Eliminating most growth and observing tooth movement alone by superimposing on mandibular and palatal planes, with Po and ANS registered, points out significant lingual crown movement of upper and lower incisors (Fig. 6). In the maxillary arch this was accomplished mostly by tipping. Molar anchorage was controlled very well. Failure to achieve adequate lingual root torque of maxillary incisors and to move point A lingually must be considered undesirable in view of objectives that were outlined.

The lower retainer was removed seventeen months after retention. However, problems of spacing in the upper arch were experienced and four different Hawley retainers were required over a period of five years of maxillary arch retention. Five years after completion of active treatment, the patient reported to the office stating he had lost his retainer again. A new retainer was made at that time and about two months later the patient reported for his last appointment. The continued problem of upper incisor spacing still existed but the patient was convinced that everything possible had been done and that he would have to accept the present condition of his teeth. A wax bite registration, headplate and full mouth intraoral x-rays were taken and the patient dismissed. Analysis of these records showed slight generalized spacing of the maxillary incisor teeth and spaces distal to the lower cuspids. The overbite had returned to about the same degree as the original model. Buccal occlusion remained in good Class I relationship. Cephalometrics showed no appreciable growth changes. The upper and lower incisors had moved labially, about .5 mm in the lower arch and 1.5 mm in the upper. This was accompanied by some change in axial inclination as the incisors were still in contact. Cephalometrics confirmed the return of some overbite. Intraoral x-rays showed the condition of the hard tissues to be fair to good.

The patient apparently accepted the condition of his mouth for about eight years. In July, 1969 he returned requesting that something again be considered for the positions of his teeth. Full orthodontic records were taken.

The major changes in positions of

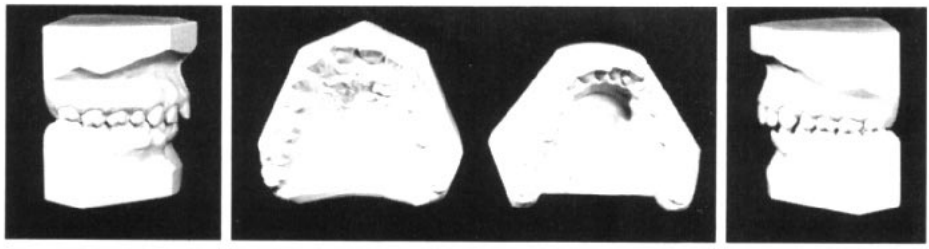

Fig. 7 Postretention models, 12 yrs. after retention, 8 yrs. after all retention removed.

Fig. 8 Photos at age 34 yrs. 12 yrs. after treatment.

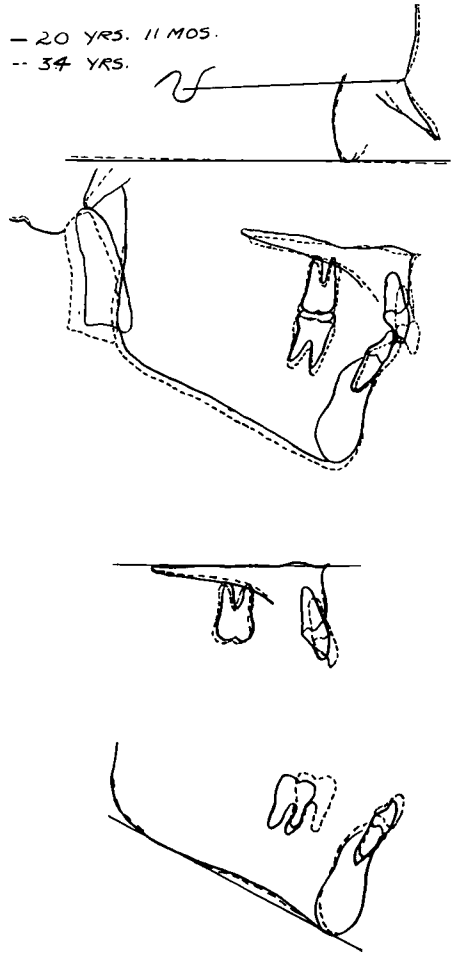

Fig. 9 Tracing from 20 yrs. 11 mos. to 34 yrs. Superposed on SN at S.

teeth were that the maxillary incisors showed excessive generalized spacing and there was an increase in overbite (Fig. 7). Buccal occlusion remained well-settled in Class I. The lower arch showed slight incisor irregularity and spacing near the extraction site. Muscle balance remained good (Fig. 8). The appearance of the face was slightly more convex, probably due to the fact that the character of the upper lip had changed somewhat.

As expected, very little change had taken place in the skeletal relationships from the conclusion of treatment until the present (Fig. 9). Dentally, all tooth positions showed a modest relapse. The nature of the relapse primarily was a labial movement of incisors with some elevation which contributed to an increase in overbite.

Radiographically, there was a most significant change in the hard tissues. Bone loss was apparent generally

throughout the mouth, about thirty per cent loss in the posterior and fifty in the anterior region. Clinically, the teeth were not mobile to any great extent. Soft tissues did not reflect the amount of bone loss. Some pocket formation was present. It was recommended that no further treatment be considered and the patient was referred to a periodontist.

Periodontal evaluation revealed deep pocket-formation. There was a significant amount of subgingival calculus. A series of scalings and prophylaxis was undertaken and some improvement noted. Full mouth gingival surgery was then recommended.

The patient wished additional confirmation of the facts, findings and recommendations and reported to the orthodontic department of one of the Chicago dental schools. He was advised that periodontal surgery not be considered at this time, but rather, additional orthodontic treatment with a Hawley and bite plane to open the bite and retract the maxillary incisor teeth. At this point the patient related that he had a history of bruxism, which was quite severe at times.

The patient's attitude is very good. He is not displeased with past orthodontic services and has not once mentioned or indicated he is sorry that he underwent corrective treatment. He is very willing to undergo whatever treatment is necessary to help his problem, but conflicting opinions at this point have lead him to make the statement that he wants to be sure he does the right thing.

I think the management of the case has been good from the inception. Treatment had been discouraged for seven years before the orthodontist finally agreed to treat. I am sure after that period of time the patient had a clear understanding of his problem and the hazards of extraction treatment in his case. Whether the patient has been compensated sufficiently from the psychological standpoint over the last fifteen years to justify what he has endured is hard to determine. As previously mentioned, he displays no regrets for having gone through treatment. Whether orthodontic treatment has contributed to the present existing conditions remains speculative and any conclusions could only be subjective. Periodontal opinion seems to be that poor oral hygiene and bruxism were greater contributing factors than traumatic occlusion, loss of bicuspids or other orthodontic factors. I think the initial orthodontic recommendation was correct, to accept the situation as it was without treatment.

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