Case Report

TREATMENT OF A CLASS II, DIVISION 1 CASE, COMPLICATED BY IMPACTED SUPERNUMERARY INCISORS

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SUPERNUMERARY teeth often lead to serious complications. In the following case they were responsible for the serious loss of bone tissue surrounding the permanent upper incisors. Their surgical removal, however, accomplished more than just removing the teeth for the after pain and soreness was directly responsible for the discontinuing of a thumb sucking habit of long standing. It was considered necessary to remove these teeth before the upper teeth were to be moved distally.

The case was considered a typical Class II, Division 1, malocclusion with considerable upper protrusion and lack of forward growth in the mandible. The lips lacked muscle tone and expression. The bone tissue, as shown by the Roentgenograms, was slightly osteoperotic.

The etiological factors were severe thumb sucking and mouth breathing. It may have been possible that the presence of the supernumerary incisors caused a feeling of pressure in the central incisor region, for the patient complained of such a feeling and declared that the thumb sucking relieved it. On the other hand, this explanation by the patient may have been made to reconcile the thumb sucking habit. The habit was immediately stopped after the removal of the supernumerary incisors. The most plausible explanation was that due to after soreness and pain the habit, in this case, was broken.

The removal of the supernumerary incisors proved to be extremely difficult. The tooth that was the lowest between the central incisors, shown by the roentgenograms, was easily removed but not so the one that was higher. Further roentgenograms taken after the removal of the lower one and after an attempt had been made to locate the higher one by the removal of bone tissue of the hard palate, show that the upper tooth had been partially pushed into the nasal passage. The tooth was finally removed through the opening in the palate but not until after a severe hemorrhage of the anterior palatine artery. A secondary hemorrhage followed twenty-four hours later and was quite serious for most of the bleeding was through the nasal passage. The patient was confined to bed for ten days.

History: The patient, age nine, of American descent is a robust girl. The mother had good teeth with considerable irregularity of the lower anteriors. The father had been dead for some years but as far as could be learned had no pronounced malocclusion. There was no history of supernumerary teeth either in parents or grandparents. There was no history of illness accompanied with a high temperature during the development of the six year old molars and the anterior teeth. Childhood diseases were measles, chicken pox, and mumps before she was five years old. The tonsils and adenoids were removed at the age of four and the adenoid tissue was

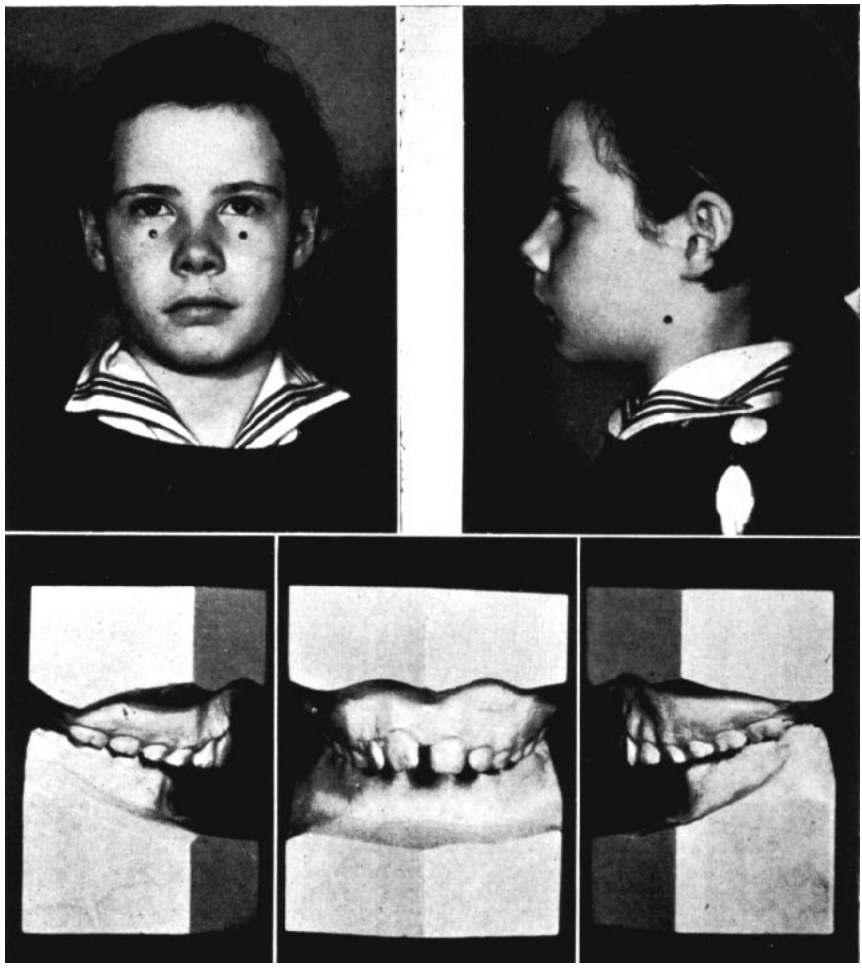

Fig. 1.—Photographs before treatment.
Models made from impressions taken before treatment was started.

again removed at the age of seven. The permanent teeth were only slightly susceptible to dental decay. The patient was slightly susceptible to hay fever. The patient was normal in height and weight.

Case Analysis: The upper teeth were forward in their relation to the skull. The upper and lower arches were contracted. The mandible was in distal occlusion. The lower second deciduous molars were present and the lower right first deciduous molar was present. The upper right and left first and second deciduous molars were present. The deciduous cuspids were present but were quite loose. The midline of the lower anteriors lined up with the midline of the upper anteriors. Both the upper and lower anteriors were elongated. The case was Class II, Division 1, complicated with impacted supernumerary upper incisors.

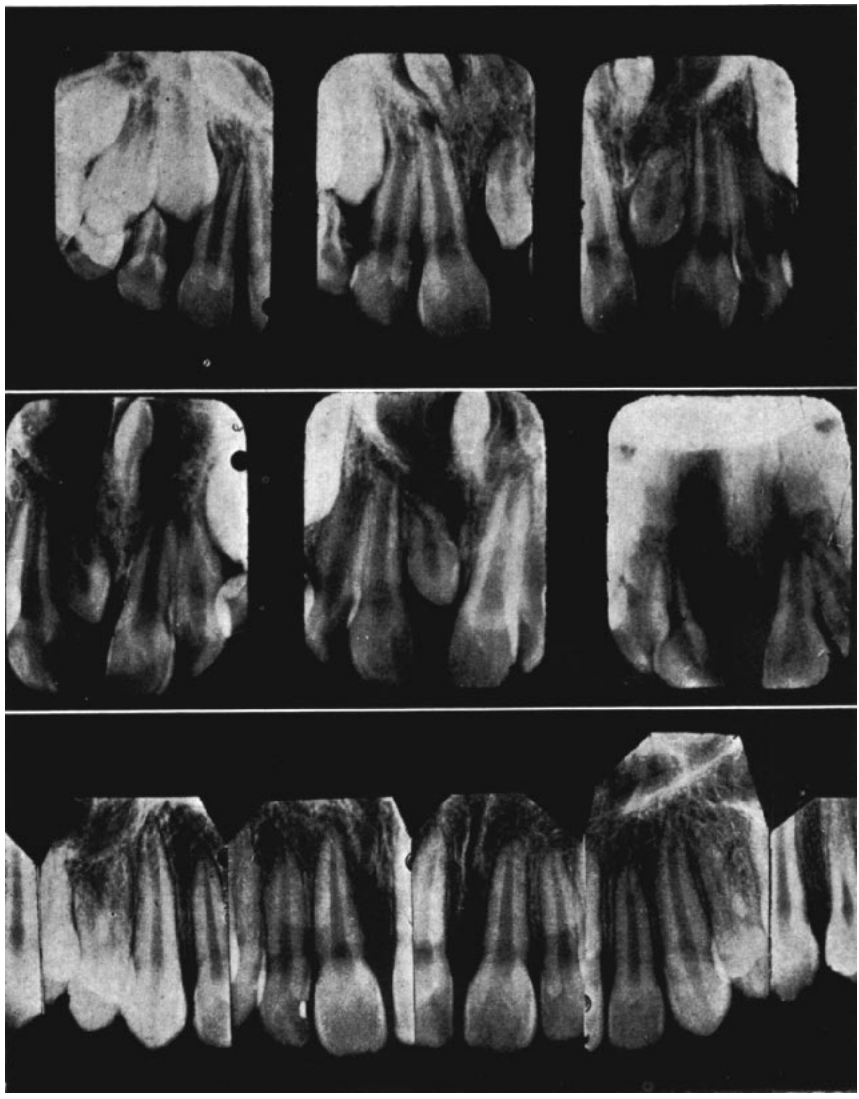

Fig. 2.—Roentgenograms.

A. Before treatment.
B. During surgical removal of supernumerary incisors.
C. Taken to locate the upper supernumerary incisor after removal of the lower. *Note:* The amount of bone tissue removed, positions of central incisor roots, etc.
D. Taken after removal of appliances approximately two and one-half years later. *Note:* Bone regeneration and positions of central incisor roots as compared to C.

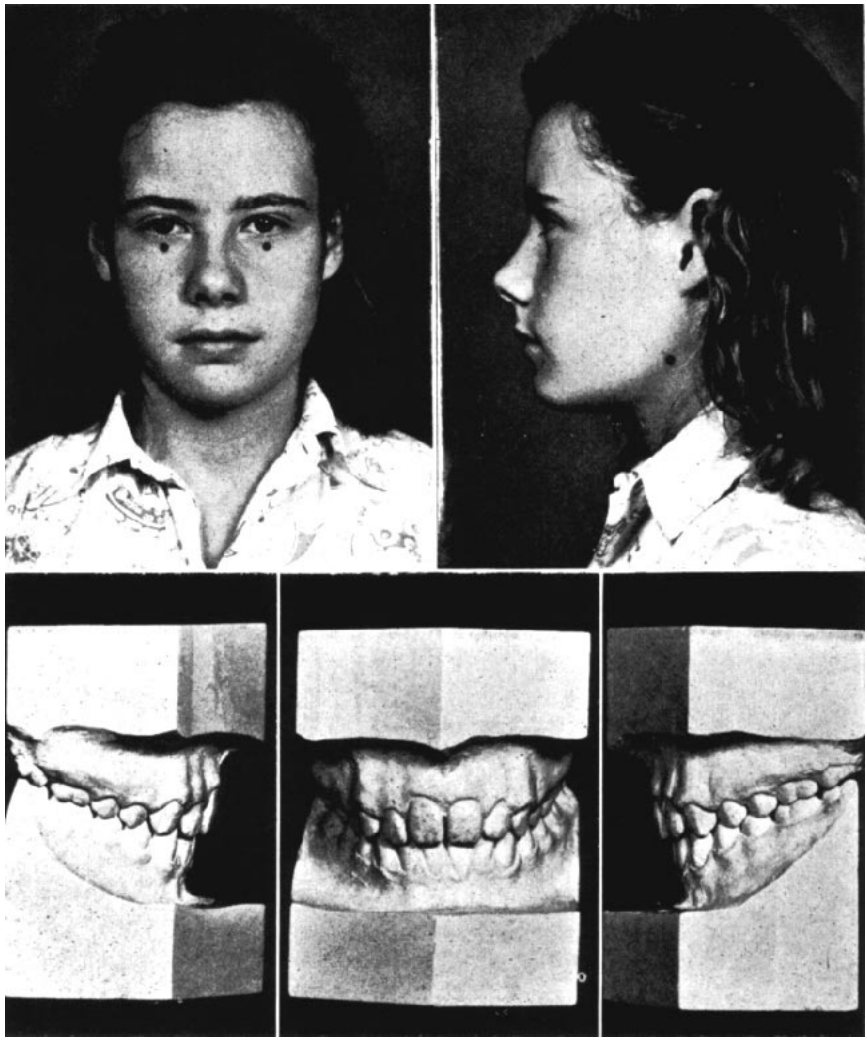

Fig. 3.—Photographs after treatment. Models made after retainers were removed.

Treatment Objectives: (1) Removal of the supernumerary teeth before atempting treatment, (2) to expand the lower arch and to establish stationary anchorage in the lower jaw, (3) to move the upper teeth distally, (4) to close the space in the upper anterior region by moving the incisors bodily, (5) to depress both the upper and lower anterior teeth and to open the bite.

Mechanics of Treatment: Ribbon arch bracket bands were placed on the upper four incisors and lower four incisors. Molar bands were placed on the four permanent first molars and on the lower second deciduous molars. The buccal tubes on the lower molars were placed in tandem. Curved sheaths were used on the upper first molar bands. When stationary

anchorage had been obtained by placing spurs on the lower arch wire mesial to the tubes on the bands of the lower second deciduous molars and the distal of the brackets on the lower lateral incisors, lingual crown torque was placed in the arch wire in the lower anterior region. The upper ribbon arch wire was aligned so that the tipping force was used against the upper first molars and the same force was used to depress the upper anterior teeth. Lingual crown force was used in the upper arch wire to carry the crowns of the upper incisors lingually. After the intermaxillary rubbers were placed, the nuts on the upper arch wire were tightened at frequent intervals. Spurs were used to close the space in the upper anterior region and just before the completion of the treatment cleats were used on the two upper central incisors to correct the axial relation of these teeth. The upper and lower permanent cuspids erupted during the eleventh and third months of treatment respectively, and were banded with ribbon arch bracket bands. The lower second deciduous molars were removed when they became too loose to use in the maintenance of stationary anchorage. The lower first bicuspids were banded with ribbon arch bracket bands in the fourteenth month of the treatment. Cleats were used on the lower arch on both cuspids and first bicuspids to maintain stationary anchorage.

Retention: A lower cuspid to cuspid retainer with incisal guides was placed after twenty-two months. Shortly after the upper bands were removed and a Hawley retainer was placed. This retainer was worn full time for fourteen months and at night only for the succeeding nine months. Slight relapse of the space between the upper central incisors and some relapse of the upper protrusion was noted one year after the retainers were removed.

In conclusion, it is interesting to note the bone regeneration over a period of two and one half years in the area where the tissue was surgically removed. The two central incisors were very loose immediately after the surgery and did not tighten completely for some months. At frequent intervals during this period pulp tests were taken to determine the vitality of these teeth; every test showed a normal response.

ACKNOWLEDGMENT

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