Adenoidal Atrophy, Velopharyngeal Incompetence and Sucking Exercises: A Two Year Follow-Up Case Report

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In this study a patient was referred to Medical Speech Pathology when he was 18 years of age with the diagnosis of being hypernasal. He had been followed by the second author for approximately the last ten years from an orthodontic standpoint. The patient was attending college and had an interest in music and played the bassoon and saxophone. During the initial evaluation he indicated that approximately a year and a half ago around the age of 16 years he began to experience some difficulty when he played the bassoon and saxophone because of a more than usual amount of air pressure coming from his nose. Being musically inclined he wanted to continue to play the saxophone and bassoon, but was perplexed by the unusual amount of nasal air pressure while playing these instruments.

In a conference with the second author we noted that in a review of a lateral radiogram that had been taken when the patient was ten years of age that marked hypertrophy of adenoid tissue appeared to be present (Figure 1). In reviewing another radiogram taken at the age of 18 years the large adenoidal mass once present appeared to have shown a substantial decrease (Figure 2). Adenoidal atrophy has been discussed by Subtelny (*6*), Westlake and Rutherford (*7*), and Massengill (*2*) in regard to velopharyngeal closure or lack of velopharyngeal closure.

The patient was referred for an ENT examination and the otolaryngologist reported that the nasopharynx could be visualized quite well. There was a minimal amount of adenoid tissue and essentially a normal ENT examination.

The next step was a cinefluorography study to determine the presence or absence of velopharyngeal closure. The results of the cinefluorography study indicated the patient was obtaining only touch velopharyngeal closure (this is where the palate barely touches the pharyngeal wall as compared to complete velopharyngeal closure where there is a large velopharyngeal seal), during sustained phonation of the vowel /i/.

The findings were reviewed with the referring orthodontist, a plastic

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surgeon, and an otolaryngologist and it was the consensus that sucking exercises could be tried with the patient. The exercise the patient was to utilize was to practice sucking through a straw while trying to hold a small piece of paper to the bottom of the straw by the suction. He was to

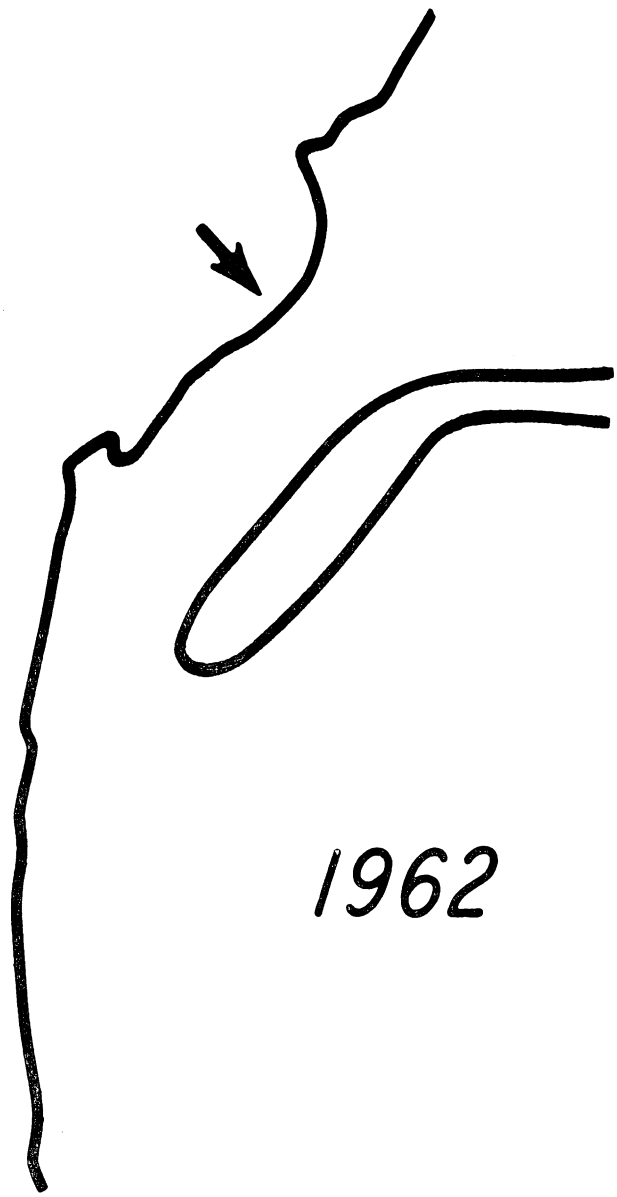

FIGURE 1. Tracing from a lateral radiogram produced when the patient was 10 years of age. This radiogram seems to indicate marked hypertrophy of adenoid tissue. The arrow indicates the adenoid area.

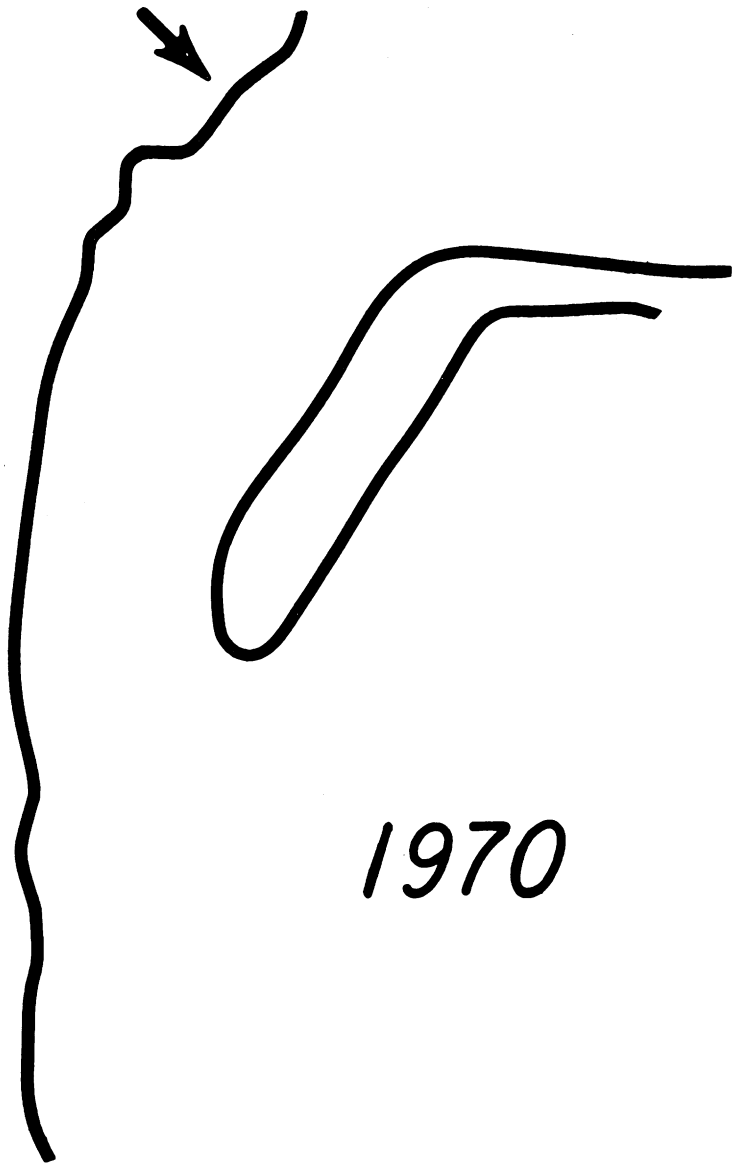

FIGURE 2. Tracing from a lateral radiogram taken when the patient was 18 years of age. The adenoidal area has shown a marked decrease.

practice this exercise for approximately 10 minutes per day. This particular exercise has been described elsewhere, (*2*).

The patient was seen again approximately six months later and reported that since he had been using the exercise he had not had the difficulty he had previously had while playing the bassoon or saxophone. He was seen again approximately two years after he had been using the

exercise and he reported the same results as before and was seen again approximately two years and five months after the exercise was first initiated and again reported the same results.

Summary

An eighteen-year-old patient who began experiencing an unusual amount of air pressure coming from his nose when he played the bassoon or saxophone was placed on a sucking exercise. Past radiograms at the age of ten years seemed to reveal marked hypertrophy of adenoid tissue. Radiograms at the age of 18 years appeared to represent physiologic atrophy of adenoidal tissue. The patient has been followed for approximately two years and five months since the exercise was initiated and he reports that since he has been using the exercise he has not had the difficulty that he had previously experienced while playing the instrument.

The use of a sucking exercise to aid in better velopharyngeal competence may seem a bit old fashioned with the modern surgical and oral prosthetic techniques. The authors are both members of a large Medical Speech Pathology, Plastic and Maxillofacial Surgery, and Orthodontic Department where patients with velopharyngeal incompetency are seen almost daily and where surgical procedures as well as oral appliances such as the obturator (*1, 3–5*) or palatal stimulator are employed. In the present case though, the sucking exercise utilized seemed to be the method most advantageous and was found to be successful.

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