Literary Review

Review of: Mouth Breathing in Allergic Children: Its Relationship to Dentofacial Development by Bresolin et al. (1983)

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MOUTH BREATHING IN ALLERGIC CHILDREN ITS RELATIONSHIP TO DENTOFACIAL DEVELOPMENT

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Abstract

This 1983 often-quoted study was the result of a Master's Thesis in Orthodontics at the University of Washington in Seattle by the senior author. The other authors are mostly orthodontists and pediatricians. The study compares facial growth characteristics in 45 individuals ranging from age 6 to 12 years. Thirty chronically allergic mouth breathers were selected from a pediatric allergy practice, and 15 nonallergic nose breathers were selected for comparison from a general pediatric practice. Each subject underwent intraoral and lateral cephalometric radiographic examinations. A variety of skeletal and dental relationships were evaluated for statistical differences as related to age and mode of breathing. In the mouth breathers, the cephalometric findings differed considerably from the nasal breathers. Facial height was increased, both jaws were more retrognathic, the palatal height was increased, dental overjet was increased, the maxillary intermolar width was narrower, and many cephalometric angular measures supported a "long face syndrome" tendency. Overall, the mouth breathers had longer faces with narrower maxillae and retrognathic jaws. The authors conclude that these data support previous claims that nasal airway obstruction is associated with aberrant facial growth. They add that longitudinal studies are needed to evaluate the effectiveness of early intervention in preventing these growth alterations. They caution against aggressive new treatment approaches unless they are a part of a well-controlled research effort.

Evaluation/Comments

While this study supports the notion that abnormal breathing patterns are associated with altered facial growth, there are several limitations to this study, many of which the authors recognize. First, the designation of "mouth breathing" was based on subjective data rather than objective aerodynamic assessments. The authors dismiss "resistance measures" of the airway as, inappropriately, meaningless. But in 1983, not as much was known about the objective assessment of the airway. The subjects selected as exhibiting "mouth breathing" present a sample of patients at the far end of the spectrum. By today's standards, it is now known that there is a wide range of posturing that can variously be considered mouth breathing. Certainly not all individuals with lips-apart, open-mouth posturing will develop an altered pattern of facial growth. The fact that these patients were being treated in a pediatric allergy practice skews the sample away from a normal distribution of "mouth breathing". That is, the most severe and obvious mouth breathers are being reported. The reader should not extrapolate these findings to the typical, or "vanilla-type", marginal mouth breather that is more often seen clinically. The cephalometric measures that the author focused on are appropriate and descriptive of the facial changes one would expect in the lateral cephalometric projection. As such, this study is a good model for analyzing cephalometric films for this sample of subjects. Based on the nature of the mouth breathing sample studied, and the lack of appropriate documentation as to the breathing characteristics of the mouth breathers, caution is urged in interpreting these data as being appropriate for all individuals labelled as "mouth breathers".

REFERENCES

Bresolin, D., Shapiro, P., and Shapiro, G., et al. *American Journal of Orthodontics* 83:4, 334-340, 1983.