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The effects of perennial allergic rhinitis on dental and skeletal development: a comparison of sibling pairs.

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This study analyzed the effect of perennial allergic rhinitis on dental and facial skeletal characteristics. Twenty-five allergic children who were apparent mouth breathers, their 25 siblings who did not have the disease and were apparent nose breathers, and 14 nasal breathing control subjects were examined medically, dentally, and cephalometrically. Compared with their siblings, the allergic subjects had more nasal mucosal edema, a higher proportion of eosinophils in their nasal secretions, and greater nasal power. The allergic subjects were characterized by deeper palatal height, retroclined mandibular incisors, increased total anterior facial height and lower facial height, a larger gonial angle, and greater SN, palatal, and occlusal planes to mandibular plane angles. All of these measures except gonial angle were also significantly different between the allergic children and the nonconsanguineous controls. Also, the allergic subjects compared with controls had smaller SNB and SN-pogonion angles and an increased overjet. Both allergic and nonallergic sibling groups showed larger mean adenoid size on radiographs than controls. For most variables the nonallergic siblings fell between the allergic children and the control subjects. Overall, the allergic children had longer, more retrusive faces than controls. This retrusive characteristic was present in nonallergic siblings and cannot be ascribed to the apparent breathing mode at the time of the study. These results confirm earlier reports that allergic rhinitis may be associated with altered facial growth. Controlled longitudinal studies to analyze a possible cause-and-effect relationship and the effects of medical and surgical treatments should be undertaken.

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