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Airway obstruction, palatal vault formation and malocclusion: a cross-sectional study.

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A cross-sectional study of one thousand and sixty-five children (508 boys and 557 girls) from the Watertown School System was done in order to determine whether there is a relationship between airway obstruction, palatal vault formation and malocclusion. The age range was 5 to 12 years old with a mean age of 8.5 years. Breathing pattern was based on the lip competency (seal) of each individual. The height of the palatal vault, the Angle's molar classification, cuspid relationship, the anterior and posterior cross-bites, the deep-bites or open-bites were also recorded. Enlarged tonsils were observed and the presence of allergies was noted. High palatal vaults were observed in children with lip incompetency (85.8%), and in children with Class II (73.6%) and Class III (65.3%). Anterior and/or posterior cross-bites accompanied high palatal vaults. From the examined children in this study, 20% presented known allergies. Eighty (80%) percent of the allergic children had high palatal vaults. Enlarged tonsils were also found in children with high palatal vaults.

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