

Changes in growth pattern, body composition and biochemical markers of growth after adenotonsillectomy in prepubertal children.

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OBJECTIVE: Adenotonsillar hypertrophy (ATH) is associated with growth interruption during childhood. The aim of this study was to determine the changes in growth, body composition and biochemical markers associated with growth following adenotonsillectomy (A&T) in prepubertal children. **STUDY DESIGN:** Twenty-eight children aged 3-10 years (mean age 73.90 +/- 20.97 months) with ATH were followed up for 1 year after A&T. During the same period of time, 20 healthy children of similar ages (mean age 73.7 +/- 18.2 months) were followed up too. **METHODS:** Height, weight as well as insulin-like growth factor-1 (IGF-1) and insulin-like growth factor binding protein-3 (IGFBP-3) were measured during the preoperative period, 6 months and 1 year after surgery. **RESULTS:** Height and weight of the patient group significantly increased during the first year after A&T ($p < 0.01$). Increase in height standard deviation score (SDS) during the first postoperative year reflected a true acceleration of growth ($p = 0.04$). Height and weight of patients were not significantly below those of their healthy peers at the preoperative measurement. Height velocity of the patients ($p = 0.118$), which was similar to that of their healthy peers in the first 6 months postoperatively, was significantly higher at the end of the second 6-month period after the operation ($p = 0.048$). IGF-1 levels of the patient group, which were significantly lower than those of the controls preoperatively ($p < 0.001$), increased to similar levels 1 year after the operation. IGFBP-3 levels of the patient group increased significantly after postoperative sixth month ($p = 0.002$). **CONCLUSION:** Although children with ATH do not have significant growth retardation, their growth rate is slower. Increase in weight and IGF-1 levels followed by the increase in height leads to an acceleration in growth rate after A&T. These results have led to the conclusion that either the levels or effect of growth hormone (GH) increase following A&T.

PMID: 15885810 [PubMed - indexed for MEDLINE]