INTRODUCTION

Tonsillar hypertrophy seems to be more prominent in obese children and is typically graded via the Brodsky’s scale, a clinical indicator of the tonsillar bulk relatively to the oropharyngeal lumen. This study investigates the relationship between the organ (tonsil) mass and body mass in children undergoing tonsillectomy for OSAS.

PATIENTS AND METHODS

Sample

Study population consists of 73 children (41 males – 32 females, mean age: 77.4 months / range: 35 – 165) who had hypertrophic tonsils removed (Fig. A).

Clinical measurements

Brodsky’s score as well as total body weight were recorded preoperatively, and tonsillar specimens were weighed with gram accuracy (Figs. B, C). Weight for age percentile according to the World Health Organization standards, and relative tonsillar mass comparatively to total body weight were calculated for all patients.

Statistical analysis

Brodsky’s score was categorized either as low (1+, 2+) or high (3+, 4+). Overweight status was defined as weight for age above the 90th percentile. Mann-Whitney U non-parametric test was used to assess statistical correlations. P value < 0.05 was considered significant.

RESULTS

The body weight distribution in the male population with hypertrophic tonsils is not normal; 37.5% of the study’s boys weigh higher than the 90th percentile of the general population (Fig. D). The true tonsillar mass is marginally independent of the overweight status (P=0.053). Brodsky’s clinical score correlates significantly both with the absolute (P=0.045) (Figs. E, F), and relative (P=0.036) tonsillar weight, only in children below the 90th percentile.

CONCLUSIONS

Our results suggest a relationship between tonsillar hypertrophy and excessive body weight in Greek boys. However, we failed to establish a correlation of the true tonsillar bulk with the full body weight. In children below the 90th percentile, the Brodsky’s scale is a safe predictor of absolute tonsillar mass. Possibly in the extremely overweight children their characteristic oropharyngeal anatomy obscures the clinical scoring of the palatine tonsils. Further studies are needed to elucidate both the pattern of tonsillar growth, as well as the exact topographic anatomy of the oropharynx in the overweight pediatric population.

REFERENCES