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Morphometrical analysis of the human palatine sutures

The hard palate is traversed by a crucial suture which consists of mid palatal, interpalatine and transverse palatine sutures. The defects of the fusion of these palatine sutures lead to cleft palate. The goal of this study is to investigate the length and the gender differences of the palatine sutures in dried Sri Lankan skulls.

A total of 63 (38 male; 25 female) dried human skulls were included in the study. The combined straight lengths of the midpalatal and interpalatine sutures and transverse palatine sutures were measured following the standard procedures with a spreading caliper capable of measuring to the nearest 0.01 mm.

The mean combined lengths of the midpalatal and interpalatine sutures and transverse palatine sutures were (male: 46.76 ± 3.43 ; female: 44.96 ± 3.12); (male: 36.12 ± 4.6 ; female: 34.14 ± 2.9) respectively. Gender differences in the lengths of the palatine sutures were statistically significant ($p < 0.05$).

The results of this preliminary study establish the existence of a statistically significant sexual dimorphism in the lengths of the palatine sutures. Further, it provides a reference set of data on the lengths of the palatine sutures for an adult Sri Lankan population. Such data will facilitate the understanding of the etiopathogenesis of malformations of this cranial region and artificial teeth mould industry.