

PREVALENCE AND MODE OF INHERITANCE OF MEDIAN DIASTEMA IN THE SINHALESE

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Median diastema is a visually detectable gap or space of more than 1mm in width between upper first permanent central incisors which continues to exist through out the adult life. This dental anomaly is a recognised clinical entity, which results in an aesthetic problem. The aim of the present study was to establish the prevalence and to investigate the mode of inheritance of this trait in the Sinhalese.

Total of 1018 medical and dental undergraduates (males: 551, females: 467) formed the sample for the prevalence of median diastema. In the identification of median diastema a small metal blade of 1mm thickness was used as the measuring gauge and which was inserted in between two central incisors in the plane at right angles to the labial surface. The trait was considered as present if the blade passed through the gap without any interference. The subjects having median diastema were further classified as high or low based on the level of frenal attachment. Fifteen individuals with median diastema having high frenal attachment were randomly selected as the proband in the construction of pedigree charts. Two generation pedigree charts were constructed using the proband as an informant and subsequently, home visits were made to examine the individuals denoted in the pedigrees. The analysis of the pedigrees, were done by the simple counting method.

Of the total sample of 1018 subjects, 53 (5.20%) and 38 (3.73%) had median diastema with high and low frenal attachments respectively. Ninety one, out of 1018 showed the trait giving an overall prevalence of 8.93% when the data was pooled due to lack of significance ($\chi^2=0.00, p=0.957$) in the prevalence of median diastema between males and females. Out of a total of 234 informative subjects in 15 pedigrees, 121 individuals were positive and 113 individuals were negative for the trait irrespective of the sex. With an autosomal dominant mode of inheritance, 177 subjects would be expected to be positive from a total of 234 giving a ratio of 1:1, irrespective of the sex. χ^2 test showed that the observed ratio of 121:113 is not significantly different from the expected ratio of 1:1 at $p=0.05$ level ($\chi^2=0.28, p>0.05$). In autosomal dominant inheritance with full penetrance every proband is expected to have a parent also positive for the trait. All 15 pedigrees conformed to these expectations.

Overall prevalence of median diastem is 9% among Sinhalese and the mode of inheritance of the trait is autosomal dominant with full penetrance.