

# Palatal rugae analysis in Indonesian males and females for sex determination

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## ABSTRACT

**Introduction:** Palatal rugae analysis is one of secondary methods for sex determination. The morphology of a human's palatal rugae is considered very specific and has individual characteristics. Although palatal rugae has been reported showing various types in men and women, but it could still be beneficial for personal identification and sex determination.

**The purpose of this study** was to analyze the types of palatal rugae in Indonesian males and females.

**Methods:** Types of palatal rugae from 100 maxilla casts (50 Indonesian males and 50 Indonesian females) were measured using a ruler and were analyzed using Lysell's classification.

**Results:** By using the Mann-Whitney test, secondary rugae type was found higher in Indonesian males than that of females and predominantly in the left palate ( $p < 0.05$ ), while fragmentary rugae was found higher in Indonesian females than that of males and predominantly in the right palate ( $p < 0.05$ ). Also, all types of palatal rugae were more frequently found in the left palate of Indonesian males than that of females ( $p < 0.05$ ).

**Conclusions:** The types of palatal rugae in Indonesian population were found to have significant differences between male and female groups. This fact supports sex determination in the Indonesian population.