

Sexual dimorphism

Sir,

We read the article with interest entitled, “Sexual dimorphism of enamel area, coronal dentin area, bicervical diameter and dentinoenamel junction scallop area in longitudinal ground section.”^[1] Sexual dimorphism is the condition where both the sexes of the same species exhibit different characteristics in addition to the differences in their sexual organs.^[2] It is applied generally in the field of forensics for sex determination, because the determination of sex is one of the important aspects for personal identification. Dimorphism related to dental and dentofacial complex can also be used as a tool for such sex determination. Tooth, in specific, serves as an additional factor for sex determination due to its structural and morphological variations.

The quoted article, which appeared in *J Oral Maxillofac Pathol* 2018;22:423-9, was aimed to evaluate and compare the enamel area, coronal dentin area, bicervical diameter, average enamel thickness and dentinoenamel junction scallop area in longitudinal ground sections of first premolars of males and females.

According to this article, all the measurements were done by preparing the ground sections of the teeth in a longitudinal axis, buccolingually across the presumed center of tooth. Thickness of the enamel and dentin varies from one reference point to another, that is, thickness measured from the longitudinal axis cut from the cusp tips may differ from the same longitudinal axis cut slightly away from the center, either mesially or distally. Further, a 50- μ thick section may have varied thickness of enamel on each side.

This article did not mention the race or the age of the patients from whom the teeth were extracted, as the age and race play a role in the anatomy of the tooth and jaw bone, because the magnitude and patterning of sexual dimorphism in permanent teeth differs from population to population.^[3]

Enamel area, dentin area and bicervical diameter were measured in this study using a customized grid with no specifications given with regard to the dimension of the grid. Further, this study fails to convey the units of the measurements used, either in the text or in the tables.

As the surface (both the inner and the outer) of the enamel and dentin is curved, superimposing the straight grid lines on the curved and angulated surface/line seems to be unfitting.

Three-dimensionally, dentinoenamel junction is made up of saucer-shaped depressions which appear as scalloped line two-dimensionally in thin microsections.^[4] These saucer-shaped depressions vary in their diameter and depth. Measuring the area of this three-dimensional structure using a linear grid line adds no relevance. In the ground sections of tooth, one can identify DEJ containing a varying number of scallops with different size and shapes microscopically due to the overlapping of many planes, because of the thickness of the ground section. Measuring such a complex structure demands a three-dimensional technique rather than a linear grid line.

Concluding the study with a very limited sample size of 60 premolars done in a country having a population of around 130 crore is insupportable. A larger sample size is a mandate to state and conclude that sex of an individual can be established from ground sections of maxillary and mandibular first premolars.

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Conflicts of interest

There are no conflicts of interest.

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