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Prevalence of mamelons among chennai population - A cross-sectional study

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Abstract

Background: Mamelons are small projections on the incisal edge of the permanent incisor teeth. A newly erupted incisor shows protuberances on the incisal edge, separated by grooves which are known as mamelons. Mamelons are a three rounded bump on the edge of the tooth, it's made of enamel. Seen mostly on the incisal edge of the newly emerged permanent incisor teeth. In this study we tried to correlate the presence and absence of mamelons among different genders in the Chennai population. **Aim:** To evaluate the prevalence of mamelons on the incisor teeth among adolescents of chennai population **Materials and methods:**This study has been carried out among the undergraduate students of a private dental college in Chennai. The participants were between the age group 18-25 years. They were visually examined for the presence of mamelons. The data collected were tabulated and analyzed using Pearson's chi-square test using IBM SPSS software (version 23) . **Results:** 24% of the study participants (n=12) showed the presence of mamelons which consisted of 8% females(n=4) and 16% males(n=8) in the age group 18-21 years. Results showed significantly higher prevalence in males when compared to females (chi-square, p value= 0.321).**Conclusion:**According to the study, more males have mamelons than females in the Chennai population. It is seen to persist more in the maxillary incisor teeth .

Keywords: Mamelons, Protuberance, Forensic evaluation,innovative technology, novel method

Introduction

Mamelons is a three rounded protuberance on the edge of the incisal tooth, separated by grooves known as mamelon (1). It is made up of enamel, together they create a scalloped, wavy edge (1,2). It is easily noticeable on the permanent teeth of children, although it is possible for adults to have them. It erupts newly through the gums(3). It exists to help teeth break out through the gums. However it is agreed that they don't have any clinical significance.

They get smoothed out when the upper and lower front teeth come into contact, it may not go away if teeth are misaligned(4). It usually occurs when you have an open bite, in which the back and front teeth don't overlap each other vertically, hence the mamelons remain in adulthood(4,5). Mamelons are present on the maxillary central incisor, they are different , middle one is smallest and distal has a low shoulder, most mesial one has a raised shoulder.(4–6). Mamelons are helpful to differentiate primary and permanent dentition, since they are absent on the primary dentition. They are present in diseases like KBG syndrome(7). They do not have a dentin underneath.

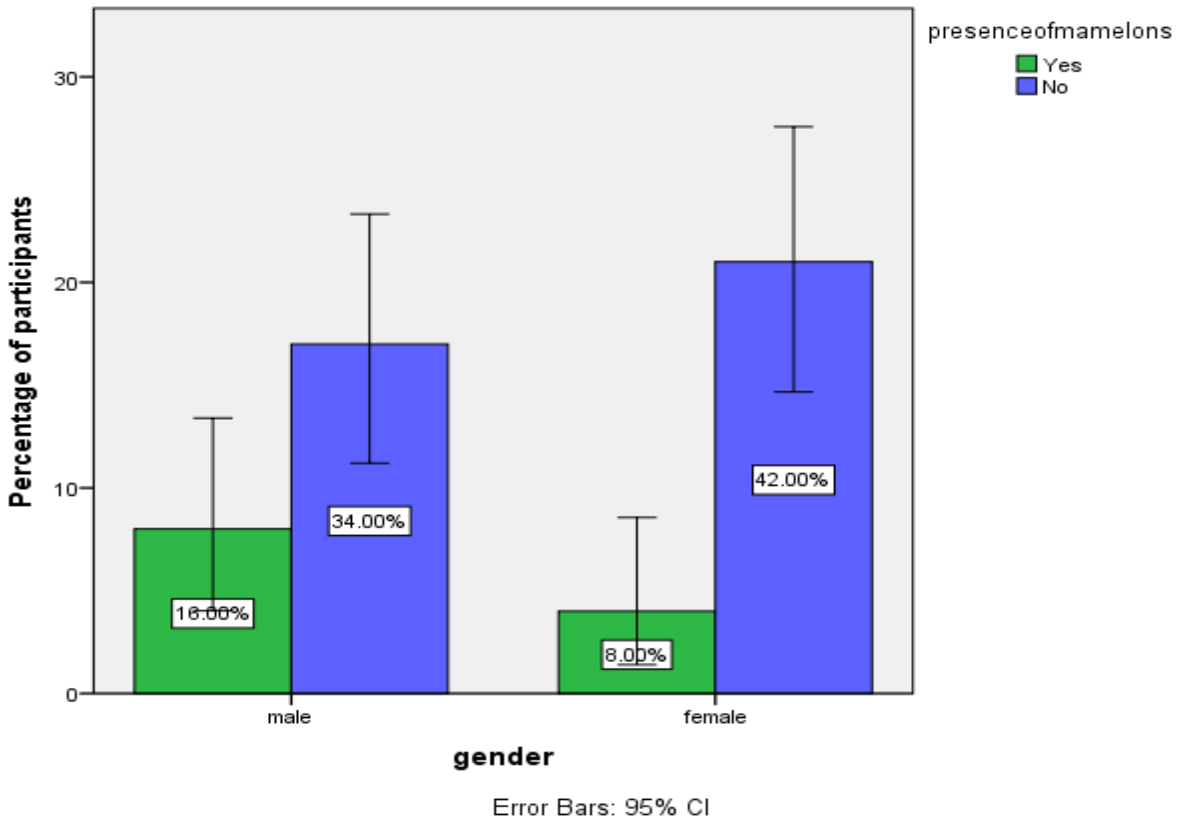
Mamelons can be removed by shaving the teeth's edges, this is a form of cosmetic dentistry treatment, it is painless and does not require a local anesthetic because it does not contain any nerves, it is a quick and cheap procedure.It is removed for appearance reasons only, it does not cause any harm(6). Our team has extensive knowledge and research experience that has translate into high quality publications (8), (9), (10), (11), (12), (13), (14), (15), (16), (17), (18), (19), (20), (21), (22), (23), (24), (25), (26), (27).Thus this study is conducted to analyze the persistence of mamelons among different genders in the chennai population.

Materials and methods

This study has been carried out on 50 South Indian students in Saveetha dental college, Chennai to evaluate the incidence of mamelons for forensic evaluation. This study compares the prevalence of mamelons with relation to sex of same age group, for the age group of 18-25 years. The consent of the participants in this study was taken. Presence of the mamelons were observed through visual examination with the help of mouth mirror, the mamelons were present on both sides for some cases. The Chi-square tests were done using IBM SPSS software(version 23).

Results:

A total of 50 participants were recruited in the study. After they were subjected to physical examination in the dental chair, it was found that 12 (24%) of them had shown the presence of mamelons. Males showed more presence of mamelons more frequently - 67% (8 nos.) compared to that of females - 33% (4 nos.) (p value= 0.321). The association between the presence of mamelons in different genders are graphically represented below as a bar chart in graph 1.



Graph 1: The bar graph represents the association between gender and presence of mamelons.X axis represents the gender and Y axis represents the number of participants. Blue denotes absence of mamelon and green denotes presence of mamelon. 16% of males showed the presence of mamelons whereas 34% of them showed absence of it. In females, 8% of the population showed the presence of mamelon and 42% did not have the mamelon. (Chi-square test; P value = .321, hence not significant)

Discussion

Mamelons are three rounded bumps or scallops formed on one of the three facial development lobes on the incisal edges of newly erupted incisors, separated by grooves(28). They help the teeth to cut through the gums more easily. It slowly wears off and is seen in adults in rare cases because of factors like delayed tooth eruption or occlusal inconsistency where the grind does not naturally grind, hence the mamelons remain in adulthood in that case. Mamelons are only enamel extensions, with no dentin underneath which pronounce them as translucent and more noticeable components(29). Mamelons are absent on the primary dentition, so they can be considered as important structures to differentiate the nature of dentition.

It is not evident on adult dentition in most cases, no cases of mamelons were seen in the age group above 50. This fact goes so well that mamelons are worn off with wear and tear.(30) It is seen better on the central incisor as compared to the lateral incisor, when the maxillary and mandibular teeth have an anterior open- bite relationship. The mamelons are present in adults where there is no functional contact between the maxillary and mandibular teeth. These are harmless and do not interfere with chewing

however it can be corrected for aesthetic purposes through treatments like teeth recontouring, cosmetic contouring and teeth reshaping(31).

In the present study also out of 50 only 12 individuals had the presence of mamelons where males had significantly higher presence than females(p value= 0.321). In a different study it is analyzed that persistence of mamelons were present more in females than males(32) which was different from the findings of the current study which shows that the males have more persistence to mamelons significantly than females. Drawback of this study is that the sample size was less and only one age group but we would like to carry further research on mamelons testing on a large scale of people with a vast age group.

Conclusion

According to the study, males have a higher rate of presence of mamelons than females in the Chennai population. A standard protocol regarding training as well as conservative correction of mamelons for aesthetic purposes should be formulated in all dental institutions. Further studies should be done with a larger sample size to generalize the results.

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CONFLICT OF INTEREST:

The author declares that there was no conflict of interest in the present study

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