ESTHETIC EVALUATION OF GINGIVAL ZENITH OF MAXILLARY ANTERIORS BY COMPARING CONTRALATERAL SIDES

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ABSTRACT

The role of Ginival Zenith plays important role in case of visible gingival tissue. The Gingival zenith is the apical most point on the gingival margin. Aims: To measure the Gingival zenith (GZ) deviation of maxillary anterior with the Vertical Bisected Midline (VBM) on left and right side and Apico-coronal displacement of lateral incisor zenith from Gingival Zenith Level (GZL) of central incisor and canine on left and right. Settings and Design: 50% patient cast were included in the study and all 6 teeth were examined. Methods and Material: Gingival zenith was marked using Chu and Stappert method. The deviation was measured for each tooth and was compared to the contralateral side.

Result: The distal deviation of gingival zenith of each tooth types differ from contralateral sides but difference was not statistically significant. The apicocoronal displacement of zenith of lateral Incisor was also non significant with its contralateral sides

Conclusion: Although gingival zenith displacement to distal side was different for each tooth types the present study didn’t show statistically significant difference with its contralateral sides.

MATERIAL AND METHODS

50 periodontally healthy subjects were enrolled in study from OPD of dental college and hospital, Navi Mumbai. Inclusion criteria were subjects of 18 years and above, with all maxillary anteriors. subjects with crown in anteriors and those undergoing ortho treatment and history of periodontal surgery in anterior teeth were excluded.

Cast were prepared and gingival zenith measurement were carried out using method given by Chu et al in 20095. Vertically bisected midline was marked on each tooth. The mesiodistal width was measured at two point incisal contact point and apical contact point. Centre point of both the width were extended to gingival margin to get vertical bisected midline. Gingival Zenith point was marked at the highest point on gingival scallop. Gingival Zenith deviation (GZ) was measured for both left and right maxillary anterior teeth. Similarly apicocoronal distance (AC) of gingival zenith of lateral incisor from gingival zenith level (GZL) of canine and central incisor was measured.
RESULT

Deviation of Gingival Zenith of Central Incisor: In case of Central Incisor we found that 4% of right Central Incisor zenith coincides with vertical bisected midline, whereas in case of left Central Incisor it was 0%. The difference of mean distal deviation between right and left Central Incisor was non significant. (Table I, graph I)

Deviation of Gingival Zenith of Lateral Incisor: In case of Lateral Incisor we found that 44% of right Lateral Incisor zenith coincides with vertical bisected midline, whereas in case of left Lateral Incisor it was 36%. The difference of mean distal deviation between right and left Lateral Incisor was non significant. (Table I, graph I)

Deviation of Gingival Zenith of Canine: In case of canine we found that 96% of right canine zenith coincides with vertical bisected midline, whereas in case of left canine it was 92%. The difference of mean distal deviation between right and left canine was non significant. (Table I, graph I)

Apicocoronal distance of Lateral Incisor from Gingival Zenith Level: It was observed that 8% and 14% of cases has gingival zenith coinciding with gingival zenith level in right and left respectively, whereas in 50% and 60% of case it was deviated coronally in range 0-1mm in right and left side respectively In 42% and 36% of cases it was more than 1mm for right and left respectively. (Graph II)

DISCUSSION

In present study gingival zenith has been evaluated quantitavely and resulted in an observation that distal displacement of zenith was not a universal feature. Various authors like Kay et al in 1982, Feigenbaum et al in 1991, Magne et al in 2002 and Morr et al in 2004; believed that distal deviation of gingival zenith is a universal finding6-10. In this study we have observed that distal deviation of zenith was more frequent in Central Incisor and least in Canine.

In present study the deviation was compare contralateral sides for each tooth type. This comparison showed no significant difference between groups, hence it was concluded that contralateral symmetry in case of distal displacement of gingival zenith. It was consistent with the study of Rufench et al in 1990, Jones et al, in 2003, Goodlin et al in 2003 and Borguetti et al in 200211-14.

Humagain et al in 2016 had observed statistically significant difference between distal deviation of zenith of lateral Incisor for left and right.15 An another study by Burkay et al 2008 assymmetrical gingival contours were observed in right and left.16 Bishara et al in 1994 observed that asymmetry exists between contralateral sides.17 Minor differences are acceptable as no two objects are similar

CONCLUSION

We have observed that distal deviation of zenith were not similar to contralateral sides but statistically we didn’t get any significant difference between the two. The gingival zenith being an important feature in esthetics, it can be used while treatment planning in esthetic zone.

Reference


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