

# Incidence and Dental Surface Defects in Areas of Gingival Recession in Jammu Population

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## ABSTRACT

**Aim:** The aim of the study is to evaluate the incidence of dental surface defects in areas of Gingival Recession in Jammu population.

**Materials and Methods:** Out of 263 subjects coming to the Department of Endodontics in Indira Gandhi Government Dental College, 100 subjects with an age range of 35–50 years were selected fulfilling the inclusion criteria. The selected subjects were divided into two groups of 50 males and 50 females the incidence of dental surface defects was found in the selected subjects based on the classification of Prato *et al.* for dental surface defects in areas of gingival recession.

**Results:** The incidence percentages of Class A surface with step in males were 40% and in females were 32%. 26% males and 24% females were having Class A without step defect. The males with Class B with step defect were 22% and females were 26%. Class B without step was present in 12% males and 18% females. No significant difference was found in the incidence of dental surface defects between different genders.

**Conclusion:** It can be concluded that the dental surface defects with the step formation are more incident in both males and females irrespective of cemento-enamel junction visibility. The evaluation of various dental surface defects in conjunction with periodontal classification could be useful for complete diagnosis of gingival recession areas and their appropriate treatment with combined restorative and periodontal procedures for root coverage.

**Key words:** Cemento-enamel junction, Jammu, Recession, Surface defects

## INTRODUCTION

Gingival recession is defined as the displacement of the marginal tissue apical to cement-enamel junction (CEJ) (American Academy of Periodontology Glossary of Periodontal terms 1992).<sup>[1]</sup> It may be localized or generalized and can be related with one or more tooth surfaces.<sup>[2]</sup> Marginal tissue recession is a more appropriate term than gingival recession as the marginal tissue may have been alveolar mucosa.<sup>[3]</sup>

Several factors are responsible for gingival recession such as toothbrush trauma,<sup>[4]</sup> malposition of teeth in the arch,<sup>[5]</sup> thin tissue overlying the root surface,<sup>[6]</sup> and muscle pull.<sup>[7]</sup> Sometimes, even iatrogenic factors such as periodontal therapy<sup>[8]</sup> or movement of the teeth during orthodontic treatment may lead to a gingival recession.<sup>[6]</sup>

To categorize these defects, Miller<sup>[9]</sup> proposed four classes of marginal gingival recessions based on the degree of involvement

of the periodontal tissues (mucogingival junction and underlying alveolar bone). This clinically useful classification evaluates different degrees of damage to periodontal tissues but does not consider the condition of the exposed root surface: Presence of an identifiable CEJ and presence of root abrasion. Sometimes these lesions may be associated with enamel abrasion.

The CEJ serves as the reference point for the diagnosis and treatment of such defects. The anatomic and esthetic success of a procedure are based on a gingival margin located slightly more coronally to the CEJ after surgery and in a good integration of the grafted gingival tissue with the adjacent teeth.<sup>[10-13]</sup>

However, the CEJ is not identifiable in some cases because of dental abrasion caused by tooth brushing trauma or cervical caries in this situation; clinicians encounter difficulties in accurately measuring the depth and the width of recessions during the diagnostic phase.

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**Table 1:** Incidence of dental surface defects in different groups

Gender	Class A (+)	Class A (-)	Class B (+)	Class B (-)	Total
Group I (males)	20 (40)	13 (26)	11 (22)	6 (12)	50 (100)
Group II (females)	16 (32)	12 (24)	13 (26)	9 (18)	50 (100)
Total	36 (36)	25 (25)	24 (24)	15 (15)	100 (100)
P (significance)	0.7842 <sup>NS</sup>		0.7208 <sup>NS</sup>		

In many articles dealing with root coverage procedures, gingival recessions with no identifiable CEJ are excluded from the study as selection criteria.<sup>[14,15]</sup> Therefore, an accurate evaluation of the dental hard tissue associated with Miller's periodontal classification could be useful for a complete diagnosis of gingival recession areas. Pini Prato *et al.* had described the classification of dental surface defects which were of paramount importance in diagnosing gingival recession areas.

The aim of the present study is to evaluate the incidence of dental surface defects in areas of gingival recession in Jammu population.

## MATERIALS AND METHODS

Out of 263 subjects coming to the Department of Endodontics in Indira Gandhi Government Dental College, 100 subjects with age range of 35–50 years were selected fulfilling the inclusion criteria.

### Inclusion Criteria

The following criteria were included in this study:

- Subjects with at least one tooth with gingival recession.
- Subjects more than 35 years of age.

### Exclusion Criteria

The following criteria were excluded from the study:

- Any systemic disease.
- Absence of gingival recession.

The selected subjects were divided into two groups of 50 males and 50 females. The incidence of dental surface defects was found in the selected subjects based on the classification of Pini Prato *et al.* for dental surface defects in areas of gingival recession. Four classes of dental surface defects in areas of the gingival recession were identified on the basis of the presence (Class A) or absence (Class B) of CEJ and presence (Class+) or absence (Class-) of surface discrepancy (step).

## RESULTS

The results of our study showed that majority of the subjects in both the groups have Class A with step dental surface defect. The incidence percentages of Class A surface with step in males were 40% and in females were 32%. 26% males and 24% females were having Class A without step defect. The males with Class B with step defect were 22% and females were 26%. Class B without step was present in 12% males and 18% females.

There was no statistically significant difference between different genders and the incidence of Class A ( $P = 0.7842$ ) and Class B ( $P = 0.7208$ ) dental surface defects in subjects with gingival recession Table 1.

## DISCUSSION

The present study was done in 100 subjects coming to the Department of Endodontics in Indira Gandhi Government Dental College to find the incidence of different classes of dental surface defects in areas of gingival recession in Jammu population.

The findings of this study showed that majority of the subjects were having a dental surface defect with visible CEJ and with step. However, the findings for incidence between two groups were insignificant. Furthermore, similar results were found in a study conducted by Prashant *et al.*<sup>[16]</sup> The more incidence of surface defects with step can be attributed to more aggressive and horizontal brushing pattern. The present study also showed that there was no significant gender difference between the incidences of various surface defects. However, we found insufficient literature about gender differences.

Restoring a lost CEJ before the root coverage procedure with different dental materials and surgical approaches have been suggested to manage gingival recessions associated with tooth abrasion in the area of the CEJ.<sup>[17,18]</sup>

Resin ionomer materials have been successfully used in the subgingival region.<sup>[19]</sup> It has been shown histologically that both epithelium and connective tissue can adhere to the resin ionomer when placed in a subgingival environment.<sup>[20]</sup> Giomer has been proven good for cervical restorations with good color matching, biocompatibility, fluoride release, and fluoride recharge potential.<sup>[21]</sup> The combined restorative and periodontal treatment with the proper finishing of the restoration margin after flap elevation have facilitated proper soft tissue healing over the margin of the restoration.<sup>[22,23]</sup>

The limitation of the present study is that different individual teeth in both the arches and subjects of different age groups were not taken into consideration to find the incidence of dental surface defects in gingival recession areas and should be considered in the further studies for appropriate results.

## CONCLUSION

It can be concluded that the dental surface defects with the step formation are more incident in both males and females irrespective of CEJ visibility. The evaluation of various dental surface defects in conjunction with periodontal classification could be useful for complete diagnosis of gingival recession areas and their appropriate treatment with combined restorative and periodontal procedures for root coverage.

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