A Classification System for Loss of Papillary Height

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A CLASSIFICATION SYSTEM FOR LOSS OF papillary height is proposed. It uses readily identifiable anatomical landmarks for reference, and sorts the degree of loss into 3 classes. The 3 broad categories allow for a quick descriptive assessment. In addition to the basic classification, it is suggested that additional and incremental description may be included to further define the defects. *J Periodontol 1998;69:1124–1126.*

Loss of interdental papillary height is often the sequela of periodontal pathology, as well as the response to periodontal therapy and the return to periodontal health. Papilla loss in the maxillary anterior region often creates a cosmetic concern in afflicted patients. As a consequential need, surgical soft tissue augmentation techniques are developing to restore such lost interdental papillae. Case presentations with follow-ups of treated cases, as well as clinical research papers, are to be expected in the literature.

The development of new techniques for papillary augmentation should benefit from a classification system for identification and description of the degree of loss of papillary height. A generally accepted classification system will facilitate the communication and understanding of the nature of treated cases. A simple, descriptive system is included herein. The system utilizes 3 identifiable anatomical landmarks: the interdental contact point, the facial apical extent of the cemento-enamel junction (CEJ) and the interproximal coronal extent of the CEJ (Fig. 1).

Normal. Interdental papilla fills embrasure space to the apical extent of the interdental contact point/area.

Class I. The tip of the interdental papilla lies between the interdental contact point and the most coronal extent of the interproximal CEJ (space present but interproximal CEJ is not visible) (Figs. 2 and 3).

Class II. The tip of the interdental papilla lies at or apical to the interproximal CEJ but coronal to the apical extent of the facial CEJ (interproximal CEJ visible) (Figs. 4 and 5).

Class III. The tip of the interdental papilla lies level with or apical to the facial CEJ (see Figs. 6 and 7).

DISCUSSION

This proposed classification system allows for easy means to assess progressive degrees of interdental papilla loss using readily observed anatomical landmarks for reference. It provides a description of the extent of reduction of papillary height. The use of such a system should assist future communication among clinicians and researchers.

In addition to the use of this basic classification, we suggest that additional descriptions could be linked and used as supplements. It is possible be more precise in the description of the height of the "black triangle" by incorporation of millimeter increments of papilla loss. For
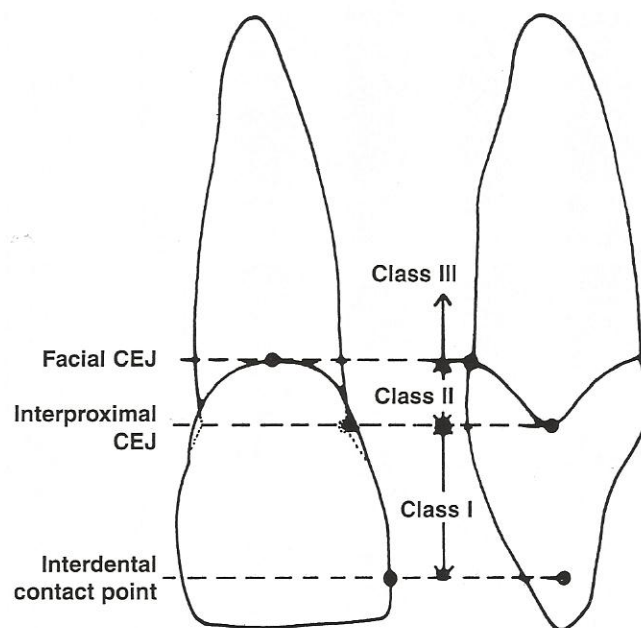

Figure 1. Schematic illustration of the proposed classification system. The location of the tip of the interdental papilla in relation to the three indicated anatomical landmarks forms the basis for the classification. For details, see text.

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Figure 2. Class I. Clinical example—facial view.

Figure 4. Class II. Clinical example—facial view.

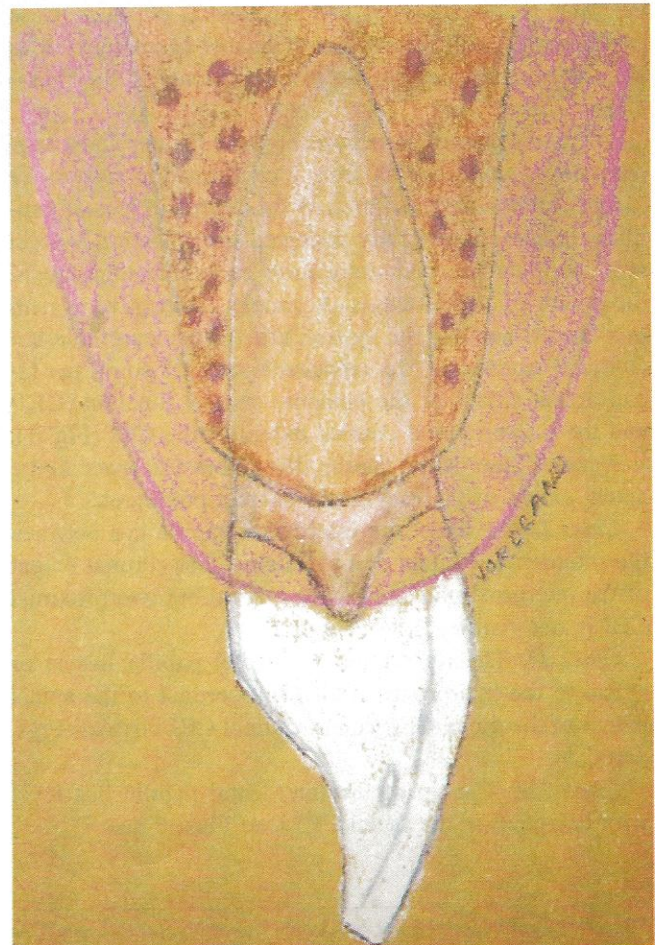Figure 3. Class I. Schematic example—interproximal view.

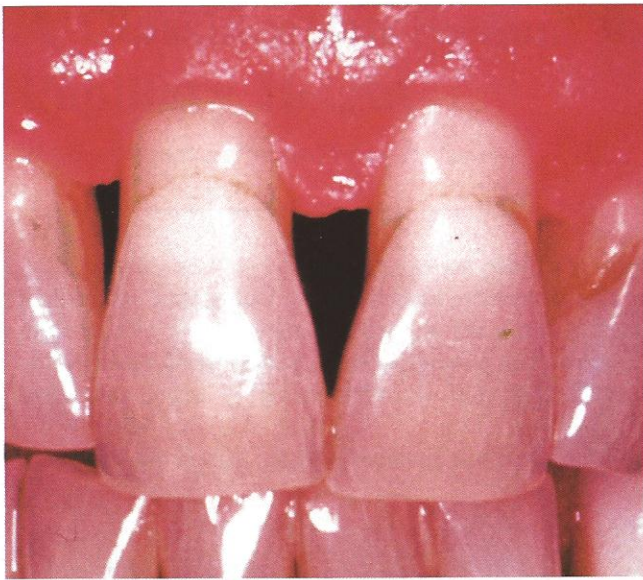Figure 5. Class II. Schematic example—interproximal view.

Figure 6. Class III. Clinical example—facial view.

Figure 7. Class III. Schematic example—interproximal view.

example, if there is 2 mm height of the "black triangle" under the contact point, this situation could be described as a Class I-2; and a 3 mm space under the contact point as a Class I-3.

Other factors which potentially may affect the outcome of papillary augmentation procedures include the amount of interdental bone loss[1] and the width of the interdental space. Therefore, we also suggest that description of cases could include data for these factors as well. Bone levels can be recorded radiographically as the distance from the CEJ to the interdental bone crest (mean of 2 proximal measurements). The width of the interdental space can be measured radiographically at the level of the CEJ. Thus, a particular case could be described as follows:

Basic classification: Class I.

Loss of papillary height: 3 mm.

Bone level: 2 mm.

Interdental width: 3 mm.

In this way, descriptions of case series could include not only the basic class for the papillary defects, but also individual defect data, as well as ranges and means for these other factors, which would substantially add to the description of the nature of the cases.

Presence of dental restorations may obliterate the landmarks for the proposed classification; e.g., a crown margin located apical to the anatomical cemento-enamel j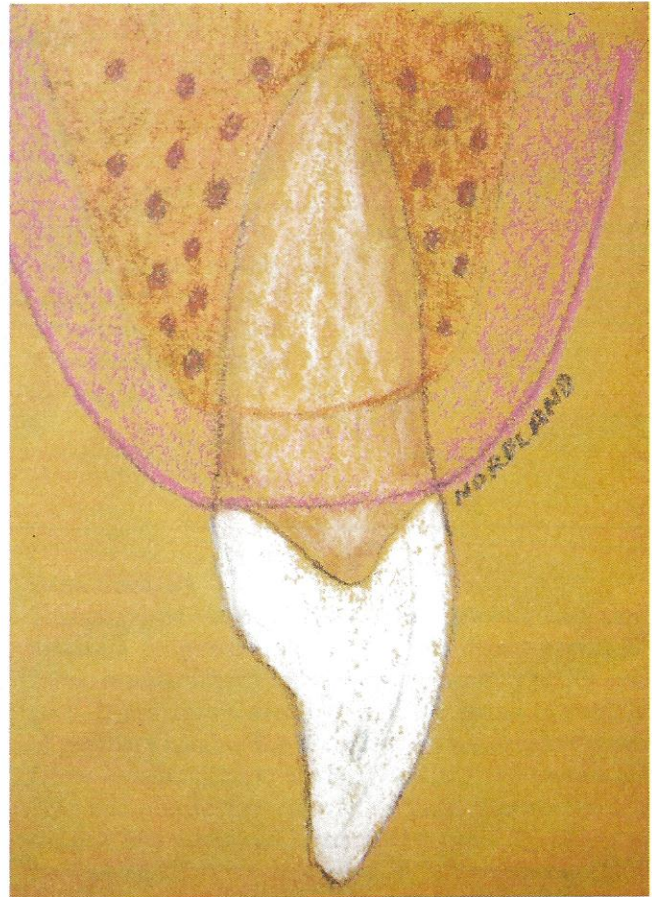unction. From a strict research point of view, this will compromise an adequate description of the case. For clinical use in individual patients, however, the new location of the "cemento-enamel junction" should provide clinically relevant reference points.

Acknowledgments

REFERENCES

1. Tarnow, DP, Magner, AW, Fletcher, P. The effect of the distance from the contact point to the crest of bone on the presence or absence of the interproximal dental papilla. *J Periodontol* 1992:63:995–996.

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