



Management of Persistent Tissue Inflammation Through Free Gingival Graft for a Hopeless Mandibular Central Incisor: A 4-Year Follow-Up Case Report

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Fig. 1 Example of gingival recession with a lack of keratinized gingiva showing persistent tissue inflammation

Albandar and Kingman (1999)	49.7%
Mythri et. al. (2015)	43.0%

Table 1 Prevalence of gingival recession in mandibular incisors

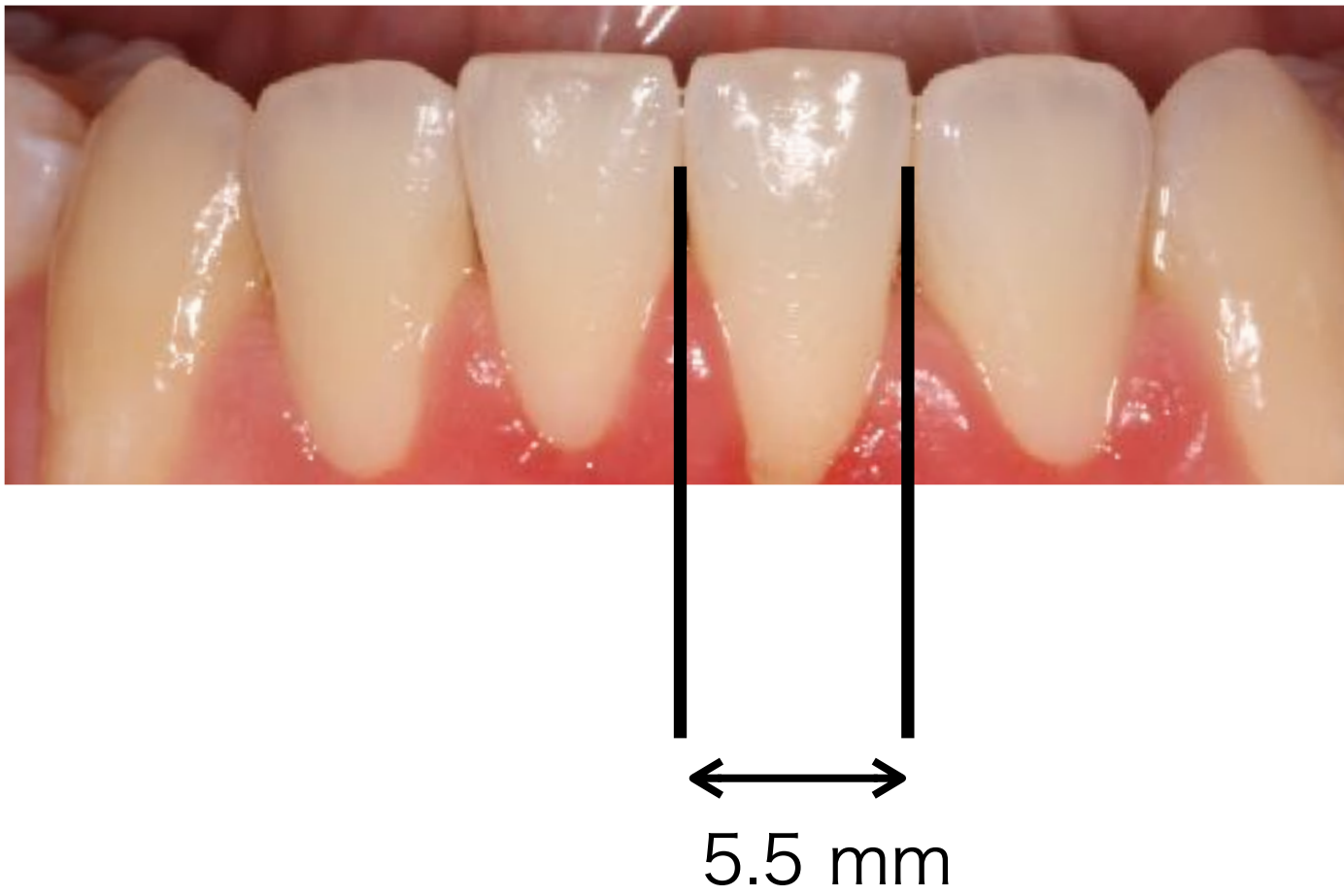


Fig. 2 Average width of a mandibular central incisor

Introduction:

Gingival recession is a common issue in the mandibular anterior region, often accompanied by a lack of keratinized gingiva, which can lead to persistent tissue inflammation. (Fig.1, Table 1) The root position relative to the bone contributes to the risk of gingiva recession and influences treatment outcomes. Following the loss of a mandibular incisor, dental implant treatment faces unique challenges due to the thin facial bony wall and limited mesiodistal space. (Fig. 2) This study represents a 4-year follow-up on the combined use of root canal treatment (RCT) and free gingival grafting (FGG) to maintain a hopeless mandibular central incisor and to avoid implant treatment.



Fig. 3 Tooth #24 with a hopeless prognosis

(a) Clinical facial view (b) Right lateral view (c) Occlusal view (d) Pre-operative PA radiograph (e) Pre-operative CBCT scan sagittal view

Methods:

The case involved a patient with a mandibular left incisor with a hopeless prognosis. The tooth presented with severe tissue inflammation on the facial aspect and bleeding. There was an 8 mm facial gingival recession with a deep probing depth of 7 mm and no keratinized gingiva. (Fig. 3 a-d) A pre-operative CBCT scan revealed the root apex entirely outside the bone housing, a periapical radiolucency, and an absence of facial bone. (Fig. 3 e) After a discussion of treatment options, the patient elected to attempt treatment with RCT and FGg.

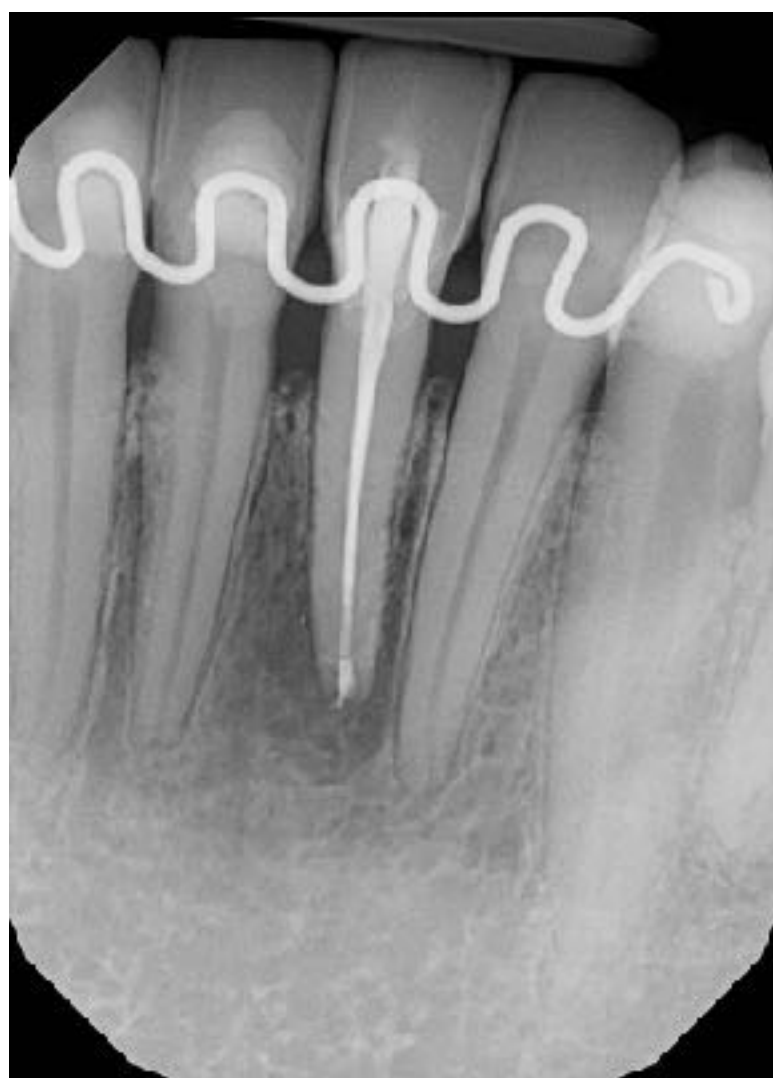


Fig. 4 Post-RCT PA radiograph

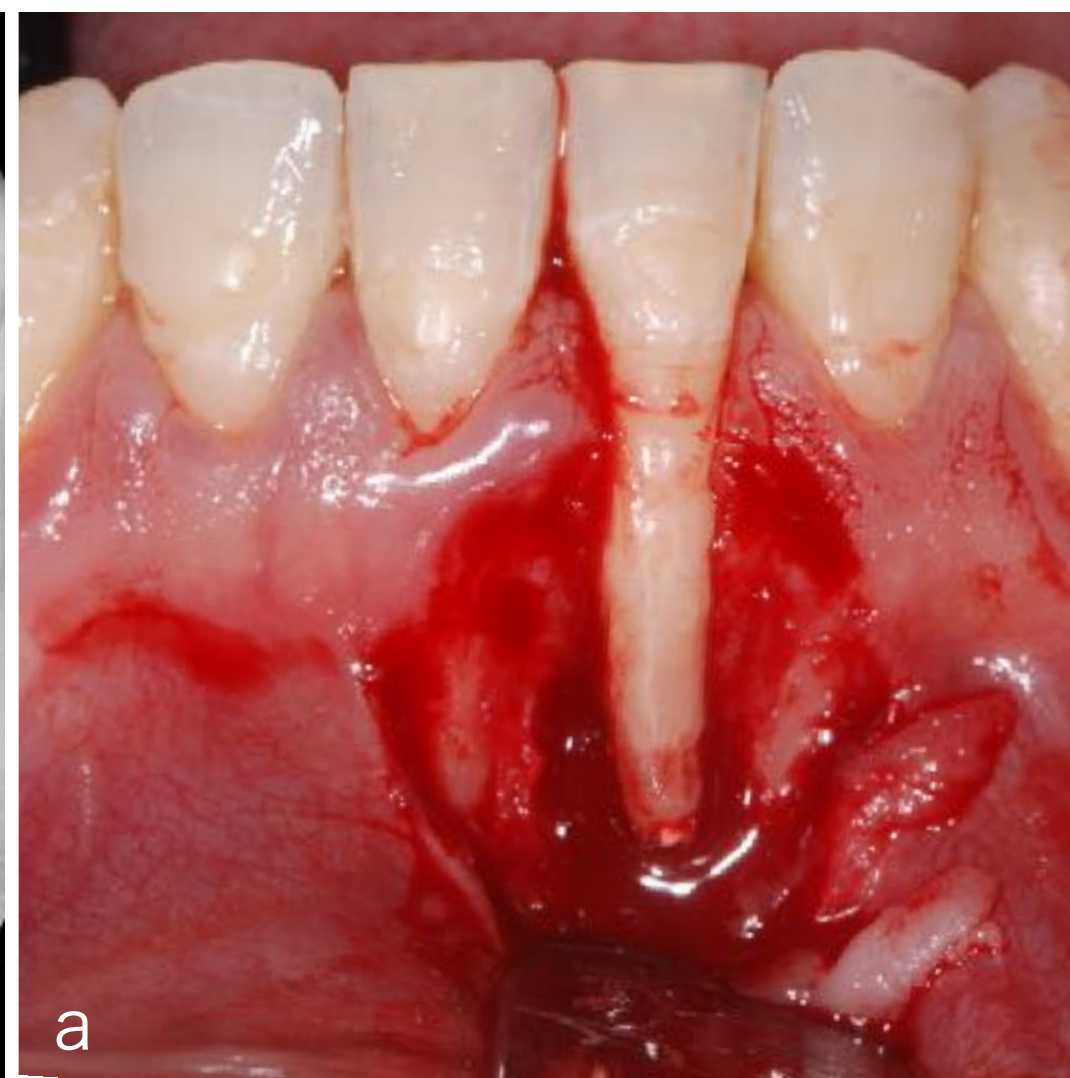
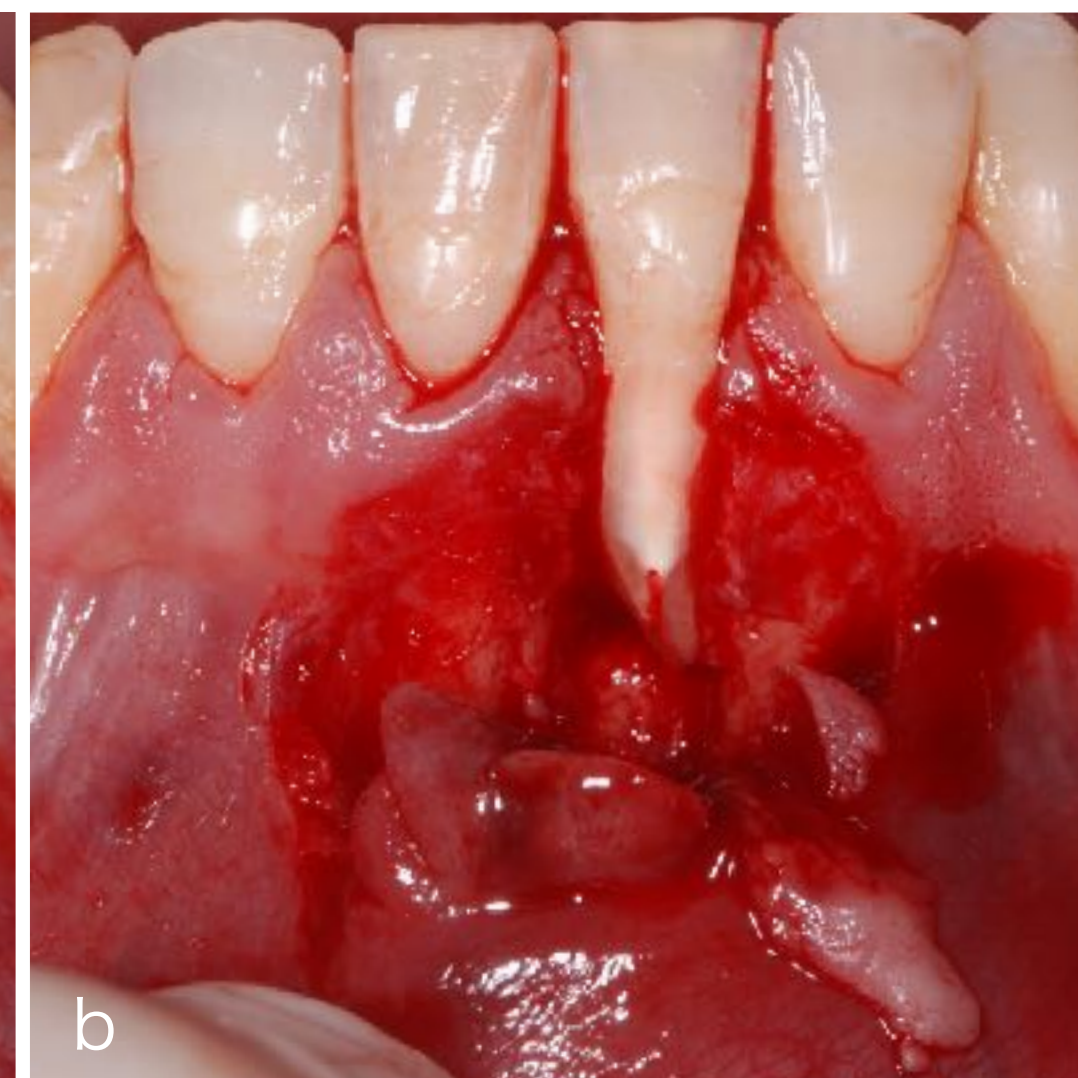
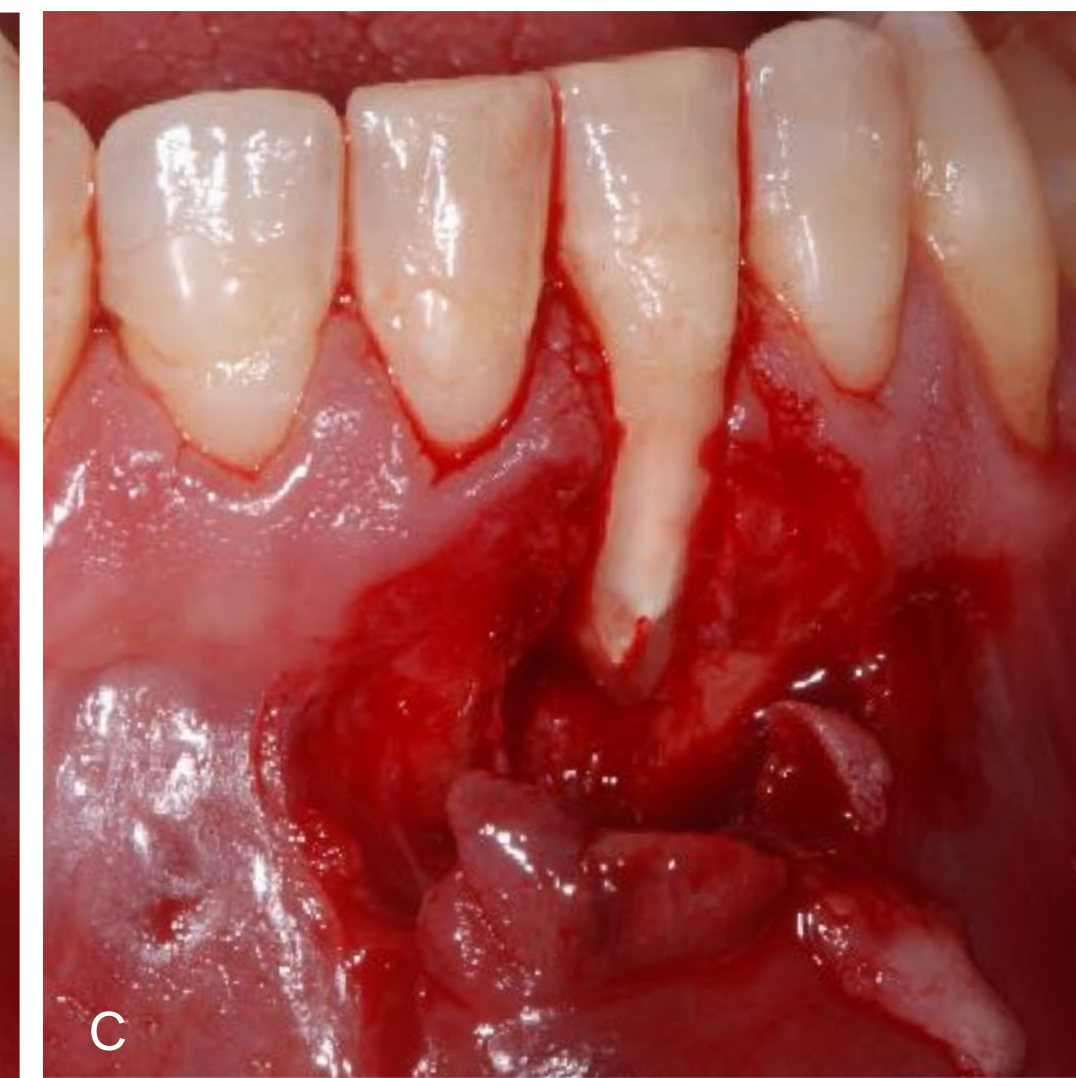
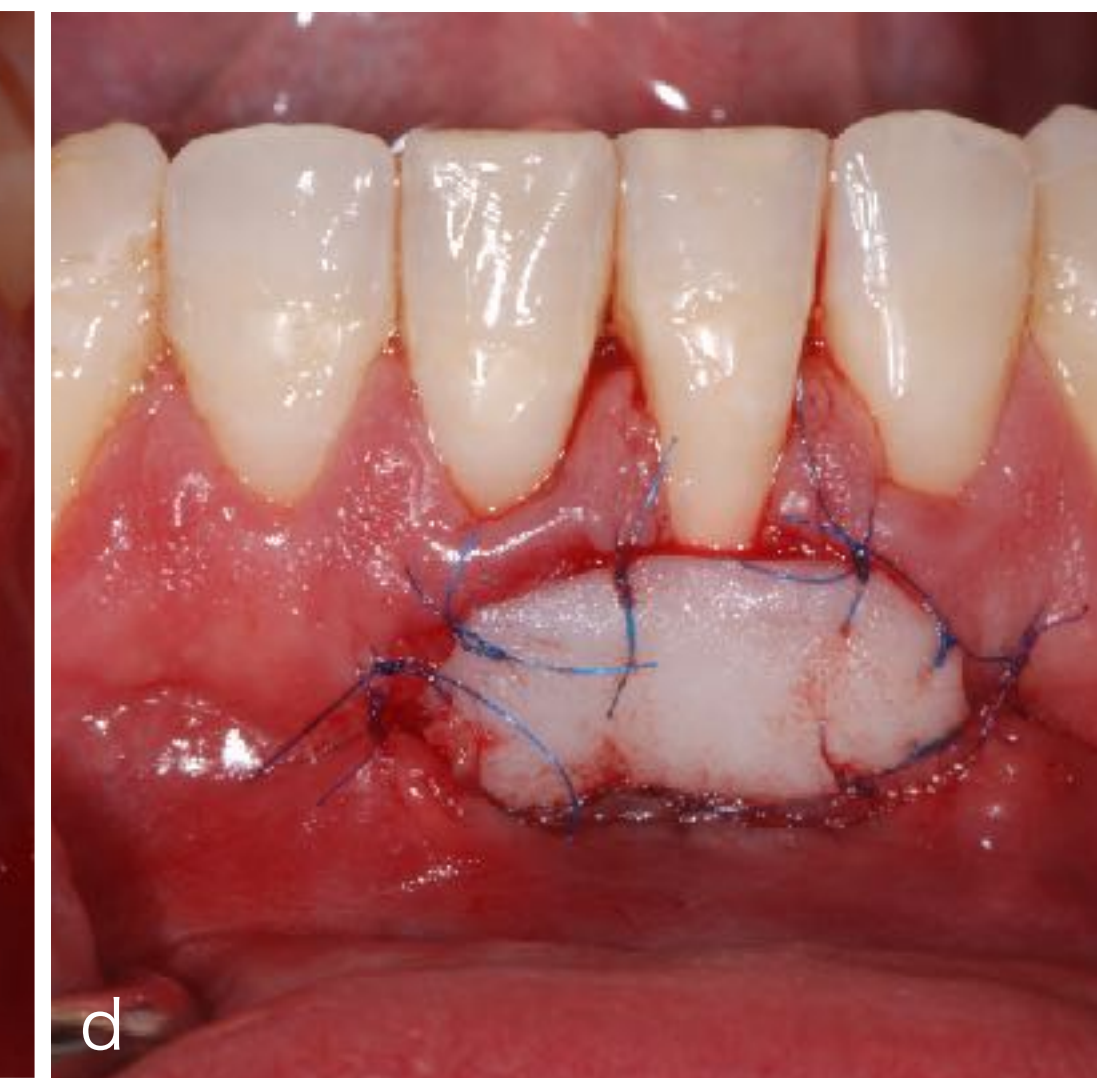


Fig. 5 Free gingival graft procedure

(a) Recipient site preparation (b)(c) Facial and lateral views showing reduction of root prominence

(d) Free gingival graft sutured on the recipient bed

Methods:

First, RCT was performed. The canal was obturated using Bioceramic putty at the apical area to allow surgical modification of the root apex. (Fig. 4) Subsequently, a recipient bed was prepared for FGg, and the root, including the apex, was shaped to the level that the remaining root was within bone housing. The gingival graft was harvested from the maxillary left palate and sutured onto the recipient bed. (Fig. 5 a-d) Occlusal adjustment was also performed during the procedure.



Fig. 6
Two-months follow-up

Fig. 7 Three-years follow-up
(a) Increased width of keratinized gingiva (b) Absence of PA radiolucency
(c) Absence of root prominence

Fig. 8 Four-years follow-up
Temporary restorations for veneers

Results:

The treated incisor was monitored over a 4-year period, during which no signs of tissue inflammation were observed, and probing depths remained shallow. Approximately 6 mm wide keratinized tissue was established on the facial aspect of the tooth. A radiographic analysis showed a shortened root length and confirmed the absence of periapical radiolucency. (Fig. 6-8)

Conclusion:

This case demonstrates that inflammation control through FGg can successfully maintain a mandibular central incisor with a hopeless prognosis, avoiding implant treatment over a 4-year period. Odontoplasty may influence the stability of FGg.

References:

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2. P Cortellini and N F Bissada, Mucogingival conditions in the natural dentition: Narrative review, case definitions, and diagnostic considerations. 2018 Jun;89 Suppl 1:S204-S213.