

Research article

Full Mouth Debridement With Gingival Curettage a Challenge in Chronic Periodontitis Treatment: A Case Report


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1. Introduction

Full mouth debridement performed in a single 1 hour appointment of ultrasonic periodontal therapy was tested as the mechanical treatment of choice rather than scaling and root planing. Some studies comparing full mouth periodontal debridement to traditional quadrant or sextant-wise scaling and root planing have shown similar clinical and microbiological results in patients with chronic periodontitis[1,2]. Furthermore, some studies have suggested that periodontal therapy performed in one session may prevent bacterial reinfection when compared to scaling and root

planing performed in a quadrant or sextant-wise manner with a gap of 1 or 2 weeks between appointments[3].

Procedures for removing the etiologic factor in periodontitis could be performed with gingival curettage. This treatment was done by scraping of the gingival wall of

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a periodontal pocket to remove the chronically inflamed tissue. However, when the root is successfully done by scaling and root planing, and the biofilm and calculus are removed, the inflammation in the tissue is also automatically resolves without tissue curettage. Therefore, the use of curettage to eliminate the inflamed granulation tissue is unnecessary. But some studies also showed that gingival curettage could be act as initial treatment and preparation before performing advanced periodontal flap to gain the quality of the tissue, this procedure is also frequently performed on recall visits as a method of maintenance treatment for areas of recurrent inflammation and pocket depth, especially where pocket reduction surgery has previously been performed[4].

Based on this controversy, the aim of this case report was to evaluate the procedure of full mouth debridement with combination of gingival curettage to reduce inflammation in chronic periodontitis patient.

2. Case Report

A 49-year-old female came to RGSM Prof. Soedomo FKG UGM with a complain of her upper mobile teeth that could easily bleeding while she was brushing her teeth and this condition made her feel uncomfortable. This complain was already felt about 3 months ago and she refuses to check her condition because she was just too afraid of the pain she felt after the gingival surgery she had been, months before. Patient did not have bad habits, including smoking or consuming alcohol and she also denied having a history of systemic illness or allergies.

Objective examination showed that there was inflammation of the gingiva around 16, 13, 12, 11, 23, 24, 25, 27, 35, 34, 33, 32, 31, 41, 42, and 43. There was also tooth mobility on 12, 11, 23, 24, 35, 34, 33, 32, 31, 41, and 42. Probing depth of the teeth were also examined and seen as in the table 1 and 2.

Patient's OHI was examined and classified into fair (4.67) and as seen in the Figure 1 that there was accumulation of plaque and debris around her malposition upper teeth with some teeth were also missing. There was also some bleeding around her gingiva after probing index was examined.

A panoramic x-ray has been performed (Figure 2) and showed that there was horizontal bone loss among all the upper and lower region extending to middle third of root, furcation involvement on

16 and 27 and radices on 22 and 36. Based on the clinical and radiographic examination of the patients, this could conclude that the patient's diagnosis was chronic periodontitis or classified using APP as periodontitis stage III grade B.

TABLE 1: Maxillary probing depth of patient's first visit (September 27, 2021). (*DB: distobuccal; B: buccal; MB: mesiobuccal; DP: distopalatal; P: palatal; MP: mesiopalatal).

DB	B	MB	DP	P	MP	Upper	MB	B	DB	MP	P	DP
6,5	3	4	4	2	4	1	x	x	x	x	x	x
6,5	3	6,5	3	2	3	2	x	x	x	x	x	x
3,5	2	6,5	3	2	6	3	6,5	1	1	2	3,5	2
x	x	x	x	x	x	4	x	2	3,5	2	2	2
x	x	x	x	x	x	5	4	2	2	2	2	2
4	3	3	1	1	1	5	x	x	x	x	x	x
x	x	x	x	x	x	7	3,5	2	2	1	1	1
x	x	x	x	x	x	8	0	0	0	2	2	2

TABLE 2: Mandibular probing depth of patient's first visit (September 27, 2021). (*DB: distobuccal; B: buccal; MB: mesiobuccal; DP: distopalatal; P: palatal; MP: mesiopalatal).

DB	B	MB	DP	P	MP	Lower	MB	B	DB	MP	P	DP
6,5	4	6	2	2	2	1	4	3,5	3,5	2	2	3,5
4	4	6	4	2	2	2	3,5	6,5	3,5	3,5	3,5	3
2	2	6	4	4	4	3	6,5	8	7	3	3	3
0	0	0	0	0	0	4	4	2	6,5	2	2	2
0	0	0	0	0	0	5	6,5	2	2	2	2	2
x	x	x	x	x	x	6	x	x	x	x	x	x
x	x	x	x	x	x	7	x	x	x	x	x	x
x	x	x	x	x	x	8	x	x	x	x	x	x

Determining the diagnosis and treatment plan are using the result of clinical and radiographic examination. For this case, the initial therapy was reducing the inflammation around the gingiva by full mouth debridement and remove occlusal trauma, then the corrective phase was to remove the infection by gingival curettage and open flap debridement (flap surgery), but before that patient was also explained to extract her radices as this could act as a focal infection, and the last was to designing metal frame partial denture for her missing teeth and to decrease the mobility of her teeth. Patients had been explained about the treatment planing and refuses to undergo the extraction procedure as she was too afraid of the treatment she had been done on the previous months. She agreed to do the full mouth debridement and gingival curettage as the first treatment to reduce the inflammation before planing for the advanced flap surgery. The first week of her visit was to do full mouth debridement with scaling and root planing of the deep pocket and debridement using povidone iodine. After treatment, patient

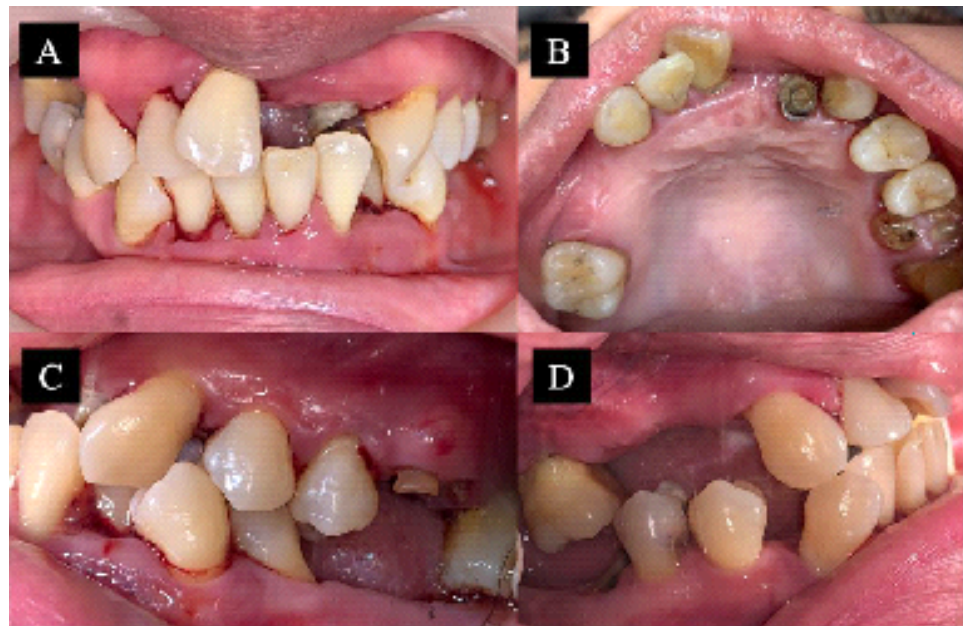


Figure 1: (A) anterior view; (B) palatal view; (C) right angle; (D) left angle.



Figure 2: Panoramic x-ray of patient.

was given chlorhexidine mouthwash to be used twice a day and scheduled to control after a week.

Gingival curettage on region 1 was done after 2 weeks and region 2 after 3 weeks post full mouth debridement as seen on Figure 3. The treatment had been agreed by patient's approval. This procedure of region 1 was done on 16, 13, 12, 11 and region 2 on 23, 25, and 27. The preparation of patient by vital sign assessment was done and asepsis technique was performed in the operating region. Anesthesia using lidocaine HCl 2% was injected at the apical area of the teeth for patient's comfort. Gingival curettage was done using Gracey curettage to remove the necrotic and granulation tissue on infected gingiva. Scaling and root planning was also performed again at this treatment to remove the remain calculus and smooth the root. Debridement was also done with saline irrigation and application of metronidazole gel to the infected deep pocket. After finishing the procedure, the operation area was dried and pressed with sterile gauze

then covered with periodontal pack using Resopack. Post-operative instruction and medication was given to the patient, including mefenamic acid if necessary for a week and continue to use the mouth rinse.

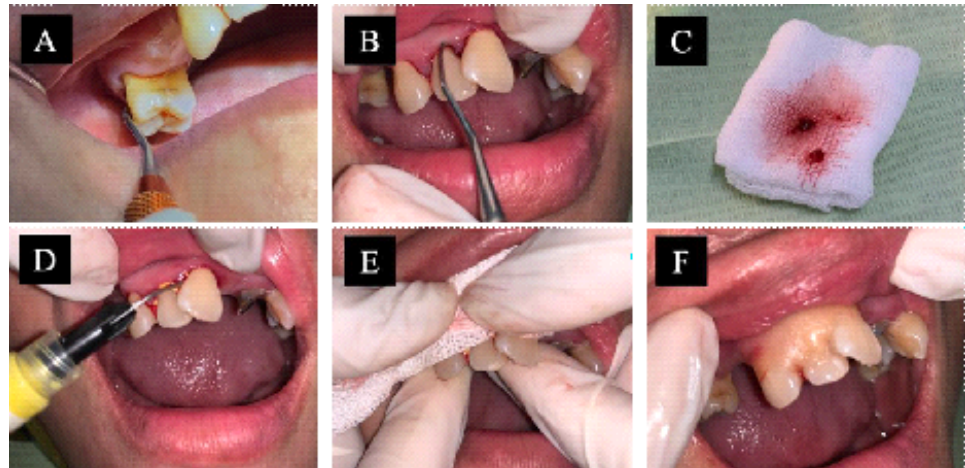


Figure 3: (A) gingival curettage of 17; (B) gingival curettage of 12; (C) granulation tissue of the infected pocket; (D) application of metronidazole gel; (E) adapting of gingiva; (F) covered with Resopack.

One week after the surgery, patient came to undergo the next region of gingival curettage (region 2) and to examine the condition of inflamed gingiva after operation done (Figure 4). The pack has completely disappeared and there was a slight inflammation on the operation area but a little better from her previous visit. Visual examination showed there was a shrinkage of her margin gingiva. Examination of the probing depth was done after 2 weeks post-operative and seems to decrease in probing depth of region 1, from the previous probing depth of 13 (distobuccal from 3,5 to 3 mm; mesiobuccal from 6,5 to 4,5 mm; mesioapalatal from 6 to 4 mm); 12 (distobuccal from 6,5 to 4

mm; mesiobuccal from 6,5 to 4 mm); 11 (distobuccal from 6,5 to 4 mm; 1, 3, mesiobuccal, mesioapalatal and distopalapatal from 4 to 3,5 mm). The patient still had a mobility of her upper teeth and refer to do advanced periodontal flap following metal frame partial denture appliance for further treatment.

3. Discussion

This case illustrates the periodontal treatment of a patient with chronic periodontitis with malposition teeth. Subgingival calculus and plaque can be removed by full mouth debridement by scaling and root planing with addition of povidone iodine debridement and chlorhexidine mouth rinse, creating a favourable microenvironment for periodontal tissue healing. In this case, initial nonsurgical periodontal therapy did not reduced deep pocket depths. The deep subgingival pocket need to be treated with advanced



Figure 4: (A) patient's first visit (B) patient's post full mouth debridement; (C) patient's post-operative.

periodontal flap but in this case, reducing inflammation of the pocket should be done before. Although full mouth debridement had been done with the patient, there was only a slight reduction in inflammation of the gingiva, so that gingival curettage was a choice as a preparation treatment before performing advanced periodontal flap to gain the quality of the tissue[4].

The gingival curettage showed a reduction in gingival inflammation in this patient and also showed a difference in pocket probing depth after 2 weeks. This could be reported also in some studies

that healing of the epithelial lining of the pocket after periodontal debridement and gingival curettage can be expected for 5 to 12 days[5], while another study said that restoration and epithelization of the sulcus requires 2 to 7 days[4]. This difference of probing depth is also due to the shrinkage of the gingival margin as some studies also evaluated that, curettage could reduced pocket depth by developing new connective tissue attachment and tissue shrinkage[6].

This procedure was a controversy because it was not applied anymore in some dental school as their routine dental activity, as it also had been deleted on their 1989 World workshop in Clinical Periodontic[7]. However, some studies also showed that curettage could make tissue attachment by reduction of periodontal attachment loss. It means leaving or deleting curettage from the basic periodontal therapy should be

aimed mainly to the mastered clinical periodontist since their hand skill in doing fully mechanical debridement[8].

Gingival curettage as seems in this study could be done as a good preparation treatment before doing the flap surgery to reduce in inflammation and probing depth, and also, it should be combined with full mouth debridement by scaling and root planing and not as a single treatment.

4. Conclusion

This case report shows that full mouth debridement with gingival curettage procedure could be a choice of treatment with deep periodontal pockets to reducing inflammation before undergo the flap surgery, but this procedure should not be done alone without full mouth debridement.

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