



THE MODIFIED WIDMAN FLAP TECHNIQUE: A CASE REPORT

Dr. Neelam Gavali*¹, Dr. Pramod Waghmare², Dr. Vishakha Patil³, Dr. Nilima Landge⁴

¹Post Graduate Student, Department of Periodontology, Bharati Vidyapeeth (Deemed to be University) Dental College and Hospital- Pune.

²Professor, Department of Periodontology, Bharati Vidyapeeth (Deemed to be University) Dental College and Hospital- Pune.

³Professor, Department of Periodontology, Bharati Vidyapeeth (Deemed to be University) Dental College and Hospital- Pune.

⁴Associate Professor, Department of Periodontology, Bharati Vidyapeeth (Deemed to be University) Dental College and Hospital- Pune.

*Corresponding Author: Dr. Neelam Gavali

Post Graduate Student, Department of Periodontology, Bharati Vidyapeeth (Deemed to be University) Dental College and Hospital- Pune.

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ABSTRACT

The Modified Widman flap (MWF), one of the most common and conservative surgical approaches that aims to eliminate the inflamed gingival tissue and also provide access for root debridement. It is classified with the “access flap operations” because the goal of the flap reflection is primarily to provide improved visual access to the periodontally involved tissues. The modified widman flap surgery is not aimed at surgical eradication of pocket walls, including bony walls. It is aimed at maximum healing in areas of previous periodontal pockets with minimum loss of periodontal tissues during and after the surgery.^[6]

KEYWORDS: Modified widman flap, Gingival enlargement.

INTRODUCTION

Widman introduced the reverse bevel scalloping type of gingival incisions in 1916 as a modification of Neumann's periodontal flap surgery.^[2] Widman made a scalloped gingival incision around the neck of the teeth about 1 mm away from the teeth, raised a high mucoperiosteal flap beyond the apices of the teeth, curetted away the remaining soft tissue collar around the teeth, did a thorough root planing of the teeth, a minor trimming of bone for flap adaptation, and closed the flap by individual interproximal sutures.^[3] The procedure was a mode of treatment of periodontal pockets aimed at reattachment and readaptation of the pocket walls rather than surgical eradication of the outer walls of the pockets. The method is characterized by precise incisions, partial flap reflection and an atraumatic procedure, whose goal is not necessarily pocket elimination but “healing” (regeneration or a long junctional epithelium) of the periodontal pocket with minimum tissue loss.

Indications

- The MWF is indicated for the treatment of all types of periodontitis, but is especially effective with pocket depths of 5–7mm.

- Dependent upon the pathomorphologic situation on the individual teeth, the MWF may be combined with larger and fully reflected flaps (resective methods) and special procedures such as wedge excisions, root resection, hemisection, osseous implantations etc., and infrequently also with gingivectomy/gingivoplasty (combined surgical procedures, p.366).

Contraindications

There are but few contraindications for the MWF:

- Lack of or very thin and narrow attached gingiva can render the technique difficult, because a narrow band of attached gingiva does not permit the initial scalloped incision (internal gingivectomy). In such situations, it may be necessary to employ the classic marginal or even an intrasulcular incision.
- MWF is contraindicated for osseous surgical procedures (expansive osteoplasty or ostectomy) with very deep osseous defects and irregular bone loss facially and orally, and if apical flap repositioning is planned.

This article discusses Modified Widman Flap procedure in a patient with chronic generalized periodontitis with localized idiopathic gingival enlargement.

CASE REPORT

A 35 year old male reported to the department of periodontology with the chief complaint of swollen gums since 15 days. Patient desired treatment for the same. Intra-oral examination revealed that he had generalized chronic periodontitis with localized idiopathic gingival enlargement from lower right canine to left first premolar region. The patient had pain in the lower left canine and premolar region, the pain was dull, gnawing and was aggravated on chewing and subsided on its own after 15 minutes, the patient had taken antibiotics and anti-inflammatory drugs for the same before 15 days. The complete medical and family history was recorded and blood investigations were carried out to rule out any contraindications for the surgery. The entire procedure was explained to the patient and a written informed consent was obtained. Clinical examination revealed plaque and calculus deposits with gingival enlargement in lower left canine to premolar region, average probing depth of 7-8mm, average clinical attachment loss of 5-7mm with no mobility in lower anterior region. The non-surgical phase was then completed for the patient initially before flap surgery. After phase I therapy the probing depth, gain in clinical attachment level were reevaluated and then the surgical phase was carried out for the patient.

MODIFIED WIDMAN FLAP PROCEDURE^[6,7,10]

Step 1-

The initial incision is an internal bevel incision to the alveolar crest starting 0.5mm to 1mm away from the gingival margin. Scalloping follows the gingival margin. Care should be taken to insert the blade in such a way that the papilla is left with a thickness similar to that of

Step 7-

Interrupted sutures are placed in each interdental space.^[10]



PRE-OPERATIVE

the remaining facial flap. Vertical relaxing incisions are usually not needed.

Step 2-

With a periosteal elevator a full thickness flap is reflected as atraumatically as possible. The flap is reflected for one reason only to permit direct visualization of the root surface and the alveolar crest.

Step 3-

A crevicular incision is made from the bottom of the pocket to the bone, circumscribing the triangular wedge of tissue containing the pocket lining.

Step 4-

After the flap is reflected, a third incision is made in the interdental spaces coronal to the bone with a curette or an interproximal knife, and the gingival collar is removed.

Step 5-

Tissue tags and granulation tissue are removed with a curette. The root surface are checked, then scaled and planed if needed. Residual periodontal fibres attached to the tooth surface should not be disturbed.

Step 6-

Bone architecture is not corrected except if it prevents good tissue adaptation to the neck of the teeth. The flaps are adapted to the bone and to each other interproximally with finger pressure. If the adaptation between the flaps and the teeth or between the buccal and lingual flaps is incomplete, the flaps have to be thinned and some bone may be removed from the outer aspects of the alveolar processes in order to enhance the flap adaptation.



POST-OPERATIVE

DISCUSSION

The Modified Widman flap (MWF), one of the most common and conservative surgical approaches, aims to eliminate the inflamed gingival tissue and also provide access for root debridement.^[7] The main advantage of the modified widman flap surgery over any other periodontal

surgical procedure is the intimate postoperative adaptation of healthy collagenous tissues to all tooth surfaces. It has been studied experimentally that in animals and humans, with a close adaptation of gingival tissues to the tooth surface, a marginal new epithelial attachment forms which tends to seal off the deeper areas of separation between the tooth and the surrounding

tissues.^[7] In some cases minimal or no inflammation is present indicating that the pathologic periodontal pocket has been eliminated as a source of irritation. So some areas may gradually develop a very long epithelial attachment which with continuous irritation may open up as a pathologic pocket again.^[11] The advantage of the modified Widman flap surgery, compared with conventional reverse bevel flap surgery with bone surgery for pocket elimination, is that it is conservative of bone and optimal coverage of root surfaces by soft tissues which is esthetically desirable and it also facilitates oral hygiene. The procedure also allows lesser exposure of root surfaces means which in turn results in less root sensitivity. Modified Widman flaps also results in more pocket closure and more regeneration of bone than conventional reverse bevel flap surgery.^[12]

CONCLUSION

Modified Widman Flap procedure has good results for patients who have generalized chronic periodontitis with gingival enlargement. The patient was called one month after surgery for post-operative follow up and the results after surgery were excellent.

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