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Comparison of Electrosurgery and Conventional Gingivectomy in the Management of Gingival Enlargement: A Case Report

Febria Desi Kriswulan Hari*, Ratna Mustriana
Universitas Muhammadiyah Surabaya, Indonesia
Email: febria_desi_kriswulan_hari@fkg.um-surabaya.ac.id*, ratna_mustriana@fkg.um-surabaya.ac.id

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ABSTRACT

Amlodipine-associated gingival enlargement can impair esthetics, mastication, and oral hygiene, requiring coordinated medical and periodontal management. This case report aimed to describe and compare the clinical characteristics and short-term outcomes of electrosurgical and conventional gingivectomy for the management of gingival enlargement in the same patient. A 52-year-old woman with hypertension presented with fibrotic enlargement of the maxillary and mandibular anterior gingiva after approximately three years of amlodipine therapy. The assessment included a medical history review, clinical examination, and intraoral documentation. Initial periodontal treatment consisted of oral hygiene instruction, scaling and root planing, and physician-directed modification of antihypertensive therapy. Persistent fibrotic gingival tissue was subsequently excised using electrosurgery in the maxillary anterior region and conventional scalpel gingivectomy in the mandibular anterior region. Outcomes were evaluated through intraoperative observations and clinical follow-up two weeks after surgery. Electrosurgery resulted in minimal intraoperative bleeding and improved surgical field visibility, whereas conventional scalpel gingivectomy required gauze compression to achieve hemostasis. Both treated regions demonstrated satisfactory short-term healing, improved gingival contours, and no signs of infection or postoperative complications. The patient also reported improved comfort during mastication and oral hygiene practices. These findings support individualized selection of surgical techniques as part of comprehensive periodontal management. Both techniques achieved favorable short-term clinical outcomes; however, this single case cannot establish the comparative superiority of either technique. Prospective studies using standardized clinical outcome measures, larger samples, and longer follow-up periods are needed to compare treatment outcomes and assess the risk of recurrence.

INTRODUCTION

Gingival enlargement is a periodontal condition characterized by an increase in gingival tissue volume associated with inflammation, medication use, hormonal changes, and systemic conditions. This condition can impair mastication, speech, and esthetics and may make it difficult for patients to maintain adequate oral hygiene, thereby increasing the risk of periodontal disease. Drug-induced gingival enlargement is commonly associated with the use of anticonvulsants, immunosuppressants, and calcium channel blockers (Barsoum et al., 2022). In Indonesia, gingival enlargement has also been reported in periodontal practice and requires appropriate management to restore normal gingival function and physiologic contours (Artika, 2022).

Amlodipine is a calcium channel blocker widely used in the management of hypertension because of its effectiveness in controlling blood pressure and its generally favorable safety profile. However, long-term amlodipine therapy may be associated with gingival enlargement in susceptible individuals. The pathogenesis of this condition involves alterations in gingival fibroblast activity, increased extracellular matrix deposition, and inflammatory responses influenced by dental plaque accumulation. Drug dosage, duration of use, individual susceptibility, and oral hygiene may also contribute to lesion severity. Without appropriate management, gingival enlargement may persist or progressively interfere with periodontal health and oral function (Sabarudin et al., 2022; Squirrel & Paranjpe, 2022).

Clinical manifestations of amlodipine-associated gingival enlargement generally include fibrotic enlargement of the gingival tissues, which may range from pink to reddish depending on the degree of inflammation and frequently involve the anterior region. Severe enlargement may partially cover the clinical crowns of the teeth and interfere with mastication, speech, and oral hygiene. Initial management includes plaque control, scaling and root planing, and consultation with the patient's physician regarding possible modification of antihypertensive therapy when medically appropriate. Previous studies have reported clinical improvement following the replacement of amlodipine with an alternative antihypertensive agent associated with a lower risk of gingival enlargement. Evidence also supports controlling local etiologic factors and providing initial periodontal therapy before considering surgical intervention (Kamei et al., 2022; Bhandari et al., 2022).

When nonsurgical periodontal therapy does not achieve adequate resolution of persistent fibrotic enlargement, gingivectomy may be considered to remove excess gingival tissue and restore appropriate gingival contours. Gingivectomy can be performed using conventional scalpel techniques, electrosurgery, or laser-assisted techniques. Conventional scalpel gingivectomy remains widely used because of its procedural simplicity and accessibility, whereas electrosurgery offers effective hemostasis and may provide improved visibility of the surgical field. Previous reports have indicated that electrosurgery may reduce intraoperative bleeding compared with conventional scalpel techniques, although each approach has specific indications, advantages, and limitations (Barsoum et al., 2022; Squirrel & Paranjpe, 2022; São Paulo, São Paulo, 2023).

Conventional scalpel gingivectomy remains a widely used surgical procedure because it is relatively simple, economical, and capable of producing satisfactory gingival contours. Nevertheless, the technique may be associated with greater intraoperative bleeding, which can reduce surgical-field visibility. In contrast, electrosurgery provides effective hemostasis, a relatively dry surgical field, and potentially efficient soft-tissue excision. However, electrosurgical procedures require appropriate operator skill and careful technique to minimize thermal injury to adjacent periodontal tissues. Therefore, the selection of either technique should be based on the clinical characteristics of the lesion, treatment objectives, operator experience, and available equipment (Damdoum et al., 2022; Sabarudin et al., 2022).

Although various gingivectomy techniques have been reported, studies directly comparing electrosurgery and conventional scalpel gingivectomy in different regions of the same patient remain limited. Most case reports describe outcomes following a single surgical technique without providing an intraindividual comparison with another approach. Recent evidence also indicates that the selection of periodontal surgical techniques should be based on

the clinical characteristics and treatment requirements of individual cases (Barsoum et al., 2022; Nibali et al., 2026). In Indonesia, case reports of gingivectomy for gingival enlargement have generally described conventional surgical approaches and reported improvements in gingival contours and patient esthetics (Azzah & Karyadi, 2025). Therefore, a case report comparing electrosurgery and conventional scalpel gingivectomy in the same patient may provide additional clinical information regarding the observed characteristics, advantages, and limitations of each technique.

Based on this background, this case report describes the application of two gingivectomy techniques—electrosurgery and conventional scalpel gingivectomy—for the management of gingival enlargement in the same patient. The report focuses on the clinical characteristics of the two approaches and their observed intraoperative and short-term postoperative outcomes. Specifically, it aims to describe and compare electrosurgery and conventional scalpel gingivectomy as surgical approaches for persistent gingival enlargement and to provide clinically relevant considerations for selecting an appropriate periodontal surgical technique.

Addressing this issue is clinically relevant because persistent gingival enlargement can perpetuate a cycle in which excessive tissue interferes with effective plaque removal, while retained plaque contributes to continued gingival inflammation. Appropriate management therefore requires coordinated periodontal and medical care that improves oral function without compromising the management of the patient's hypertension. Published observations support this integrated approach: Kamei et al. (2022) documented clinical improvement following medication modification and periodontal treatment, whereas Rajaram Mohan et al. (2023) illustrated challenges associated with inadequate oral hygiene and interrupted follow-up. These observations indicate that the choice of surgical technique should be considered within the broader treatment pathway. Detailed reporting of initial periodontal therapy, physician consultation, surgical intervention, and postoperative assessment may therefore help clarify how individual components of care contribute to the observed clinical outcome.

The distinctive contribution of this case report lies in its descriptive intraindividual comparison of electrosurgery and conventional scalpel gingivectomy within a single episode of care for amlodipine-associated gingival enlargement. Its novelty is contextual, as it integrates two surgical techniques with preceding inflammatory control and physician-directed modification of antihypertensive therapy rather than presenting either technique as a novel treatment. The report aims to describe the clinical presentation, explain the sequence of management, and compare the observed intraoperative characteristics and short-term postoperative findings of the two treated regions. Specifically, it seeks to document intraoperative bleeding control and surgical-field visibility, describe gingival contour restoration and healing at two weeks, and report the patient's perceived comfort during mastication and oral hygiene practices. These objectives remain consistent with the observational scope of a single-patient case report.

The expected scientific contribution of this case report is to provide a clinically grounded account that complements existing comparative evidence and identifies questions for further investigation. For practitioners, the findings may help clarify how hemostatic requirements, lesion characteristics, operator experience, and equipment availability should be considered when selecting a gingivectomy technique. From the patient-care perspective, the

clinical relevance includes restoration of gingival contours, improved access for oral hygiene, and greater functional comfort within coordinated periodontal and medical management. Future research should conduct prospective comparisons using standardized baseline assessments, objective measurements of operative time and intraoperative bleeding, validated pain and wound-healing indices, and longer follow-up periods to evaluate recurrence. By distinguishing observed short-term clinical outcomes from conclusions that require stronger comparative evidence, this case report may support informed clinical decision-making and contribute to further research on the surgical management of drug-associated gingival enlargement.

METHOD

This case report described the management of amlodipine-associated gingival enlargement using two surgical techniques: electrosurgery and conventional scalpel gingivectomy. Clinical data were obtained from the patient's medical and dental history, intraoral and periodontal examinations, clinical documentation, treatment procedures, and postoperative evaluations. Written informed consent was obtained for treatment and publication of the case while maintaining patient confidentiality.

Initial periodontal management consisted of oral hygiene instruction, scaling and root planing, followed by consultation with the patient's physician regarding modification of antihypertensive therapy before surgical intervention. Persistent fibrotic gingival enlargement was subsequently treated using electrosurgery in the maxillary anterior region and conventional scalpel gingivectomy in the mandibular anterior region.

Postoperative clinical evaluation focused on soft-tissue healing, gingival contour, bleeding, signs of infection or other complications, and the patient's reported comfort during oral hygiene and mastication. The clinical characteristics and short-term outcomes of the two surgical techniques were descriptively compared based on intraoperative observations and postoperative follow-up findings.

RESULTS AND DISCUSSION

A 52-year-old female patient came to the Periodonsia Clinic with the main complaint of gums of the upper jaw and enlarged lower jaw, which interfered with aesthetics, mastication processes, and made it difficult to maintain the cleanliness of the oral cavity. The patient had a history of hypertension and had been taking amlodipin for approximately three years. The patient had no history of diabetes mellitus or other systemic diseases.

Intraoral clinical examination showed generalisata gingival enlargement in the anterior region of the upper jaw including teeth 13, 12, 11, 21, 22, and 23 and the anterior region of the lower jaw in teeth 33, 32, 31, 41, 42, and 43. The gingiva appears to be enlarged with a lobulated surface, a predominantly fibrotic consistency accompanied by mild to moderate inflammation, reddish-pink, and covering part of the clinical crown of the anterior tooth. In addition, accumulated plaque and supragingival and subgingival calculus were found. Based on the results of the anamnesis and clinical examination, the patient was diagnosed with *drug-induced gingival enlargement* related to the use of amlodipine.



Figure 1. Early Clinical Conditions

Drug-induced gingival enlargement (DIGE) is one of the most common side effects associated with the use of anticonvulsant, immunosuppressant, and *calcium channel blocker* (CCB) drugs, including amlodipine. In this case, the patient experienced gingival enlargement after taking amlodipine for approximately three years. The findings are in line with the report explaining that gingival enlargement due to amlodipin generally develops slowly after long-term use of the drug and is characterized by enlargement of gingiva with a fibrotic consistency, especially in the anterior region. In addition to being affected by drug use, lesion development is also affected by the accumulation of biofilms and plaques that aggravate the inflammatory response of periodontal tissue. Thus, the condition found in this patient shows an interaction between systemic factors in the form of amlodipin consumption and local factors in the form of less than optimal oral hygiene. (Misra et al., 2021)(Barsoum et al., 2022)

The mechanism of the occurrence of DIGE is not fully understood until now, but it is suspected to involve a combination of non-inflammatory and inflammatory mechanisms. Amlodipin affects the metabolism of gingival fibroblasts thereby increasing collagen synthesis and decreasing the degradation of the extracellular matrix. This condition causes excessive accumulation of connective tissue and triggers gingival enlargement. On the other hand, biofilms and calculus will maintain the inflammatory process thereby accelerating the progression of lesions. Molecular changes due to drugs occur through the regulation of cytokines, growth factors, and *matrix metalloproteinase activity* which plays a role in the remodeling of gingival tissue (Drożdzik & Drożdzik, 2023; Squirrel & Paranjpe, 2022).

The initial stage of treatment was carried out through *oral hygiene instruction*, followed by *scaling* and *root planing* to eliminate local irritant factors. Next, the patient was consulted with a heart and vascular specialist for evaluation of antihypertensive therapy. Based on the results of the consultation, the use of amlodipin was discontinued and antihypertensive therapy was replaced with Bioprexum and V-Bloc. Evaluation two weeks after drug replacement showed a decrease in inflammation and a reduction in the size of gingival enlargement compared to the initial condition. However, fibrotic tissue still persists so that gingivectomy is still required to obtain physiological gingivative contours.



Figure 2. Gingival Condition After Amlodipin Replacement

Early management of *drug-induced gingival enlargement* (DIGE) aims to control inflammation through the elimination of biofilms and local irritant factors prior to surgery. Non-surgical periodontal therapy, such as *oral hygiene instruction*, *scaling*, and *root planing*, is an important first step to reduce plaque accumulation and improve the condition of periodontal tissue. This approach aims to create a healthier tissue environment that can increase the success of subsequent therapies and reduce the risk of postoperative complications.(Mawardi et al., 2021; Sanz et al., 2020)

In addition to nonsurgical periodontal therapy, modification of causative drugs is an important part of management when possible in collaboration with the treating physician. Replacement of causative drugs does not always lead to complete regression of gingival enlargement, especially in lesions that have undergone fibrosis, but can reduce lesion progressivity, reduce inflammation, and reduce the risk of recurrence after gingivectomy. Therefore, multidisciplinary collaboration is one of the important factors in the successful management of DIGE, especially in patients with systemic diseases that require long-term therapy.(Barsoum et al., 2022; Mawardi et al., 2021)

In this case, although inflammation is reduced after initial periodontal therapy and modification of antihypertensive therapy, fibrotic tissue persists so that gingivectomy is required to restore the physiological gingival contours. These findings are in line with reports that gingival enlargement that has undergone fibrosis generally does not undergo complete regression with only the elimination of causative factors and non-surgical periodontal therapy, so surgical intervention is still required to obtain optimal clinical outcomes. Based on these conditions, in these patients two different gingivectomy techniques were selected to evaluate the clinical characteristics of each technique during the healing process.(Barsoum et al., 2022; Drożdzik & Drożdzik , 2023)

The stages of patient management are carried out systematically starting from the initial examination, elimination of etiological factors through non-surgical periodontal therapy, evaluation after modification of antihypertensive therapy, gingivectomy procedures using two different techniques, to postoperative control. This step-by-step approach aims to ensure that surgical actions are carried out after the inflammatory condition is controlled so that optimal

healing results are obtained. The series of treatments carried out on patients is presented in Table 1.

Table 1. Case Management Chronology

Visit	Actions	Results
I	Anamnesis, clinical examination, *oral hygiene instruction*, *scaling* and *root planning*, consultation with a cardiologist	The diagnosis *of drug-induced gingival enlargement* is established and the patient is referred for evaluation of antihypertensive drugs
II	Evaluation after the replacement of amlodipin to bisoprolol	Reduced gingival enlargement and inflammation
III	Upper jaw gingivectomy using *electrosurgery* and lower jaw using manual techniques (*scalpel*)	Hyperplastic tissue was successfully excised.
IV	Control two weeks postoperatively	Good healing and more physiological gingival contouring

After the tissue condition improves, gingivectomy is performed using two different techniques on the same patient. Gingivectomy of the upper jaw which includes teeth 13, 12, 11, 21, 22, and 23 is performed using *electrosurgery*, while gingivectomy of the lower jaw which includes teeth 33, 32, 31, 41, 42, and 43 is performed using a manual technique using a *scalpel*. During the procedure, the use of *electrosurgery* provides a drier surgical field with minimal bleeding, while manual techniques require bleeding control using gauze compression before the formation of the gingival contour is performed.



Figure 3. Post-Gingivectomy Conditions with *Electrosurgery*

To provide an overview of the application of both gingivectomy techniques in the same patient, a comparison of clinical characteristics during the procedure as well as the results of the initial postoperative evaluation was conducted. The comparison included several clinical aspects, such as operating field conditions, bleeding control, ease of action, and the initial

healing process of the tissue. A summary of the comparative characteristics of the two techniques is presented in Table 2.

Table 2. Comparison of Clinical Characteristics of Gingivectomy Using *Electrosurgery* and Manual Techniques

Parameters	*Electrosurgery* (upper jaw)	Manual Technique (*Scalpel*) (Lower Jaw)
Action area	Teeth 13–23	Teeth 33–43
Intraoperative bleeding	Minimal	More
Field of operation	More clearly	Slightly covered in blood
Ease of hemostasis	Good	Requires gauze emphasis
Formation of gingival contours	Good	Good
2 weeks of healing	Good	Good

At the two-week postoperative evaluation, the healing process took place in both regions with no signs of infection or complications. The gingival contour appeared more physiological, hyperplastic tissue was gone, and patients reported no longer experiencing any disturbances when chewing or cleaning their teeth. Although both techniques provided satisfactory clinical results, the use of *electrosurgery* provided the advantage of better bleeding control during the procedure compared to manual techniques.



Figure 4. Conditions Two Weeks Post-Gingivectomy

Postoperative evaluation showed that both gingivectomy techniques provided good clinical results with satisfactory tissue healing and more physiological gingival contours. No complications were found during the healing period, and patients reported increased comfort when chewing and maintaining oral hygiene. These results showed that comprehensive management that began with the elimination of etiological factors and continued with surgery was able to significantly improve the patient's clinical condition. These findings are also in line with case reports showing that gingivectomy in *drug-induced gingival enlargement* cases provides improved function and aesthetics when preceded by initial periodontal therapy.(Machirah et al., 2023)

The uniqueness of this case report lies in the use of two different gingivectomy techniques in the same patient, namely *electrosurgery* on the upper jaw and manual techniques using a scalpel on the lower jaw. This approach provides an opportunity to observe the characteristics of each technique in relatively similar biological conditions so that the influence of individual factors, such as age, systemic conditions, inflammatory response, and tissue healing ability, can be minimized. While it cannot replace comparative research with large sample counts, it provides a more objective clinical picture of the advantages and limitations of each technique in the same patient condition.(Squirting et al., 2024; Mahardika & Faizah, 2025)

Electrosurgery is a soft tissue surgical technique that utilizes high-frequency electric currents to produce controlled heat so that it is able to cut tissue while coagulating small blood vessels. This mechanism produces a hemostasis effect during the procedure so that the surgical field becomes cleaner and the visibility of the operator increases. In addition to reducing intraoperative bleeding, cutting and coagulation processes that take place simultaneously also have the potential to increase the efficiency of the procedure, especially in the anterior region which requires the formation of a precise gingival contour. However, the use of *electrosurgery* requires proper power regulation and application techniques so that the thermal effects on the surrounding tissues are minimal and do not interfere with the healing process.(Amaral Vargas et al., 2022; Squirting et al., 2024)

In contrast, conventional gingivectomy using a scalpel remains a widely used technique in periodontic practice because it is able to produce sharp, precise, and non-thermal effects on the tissue. This technique allows the healing process to take place physiologically if performed with the correct surgical procedure. However, bleeding during the procedure is generally more abundant than *electrosurgery* and requires more intensive hemostasis control to maintain visibility of the surgical field. Nevertheless, conventional techniques remain an effective option because the equipment is simple, the cost is relatively lower, and has long been the standard in gingivectomy procedures.(Artika, 2022; Munshi, 2023)

In this case, the use of *electrosurgery* provides the advantage of a drier surgical field due to the good hemostasis ability during the procedure. This condition makes it easier for the operator to identify the boundaries of the tissue to be exsected and to form the gingival contour more precisely. In contrast, the manual technique using a scalpel requires more intensive bleeding control so that the visibility of the surgical field is relatively reduced. However, both techniques are equally successful in removing hyperplastic tissue and producing physiological gingival contours. The difference is mainly seen in the intraoperative phase, while postoperative clinical results show relatively similar outcomes.(Amaral Vargas et al., 2022; Munshi, 2023)

The findings in this case are in line with the research of Munshi (2023) who stated that *electrosurgery* is one of the alternative gingivectomy that provides the benefit of hemostasis during the procedure, although clinical evidence that directly compares its effectiveness with conventional techniques is still limited. A systematic review by Amaral Vargas et al. (2022) also showed that the use of energy-based surgical devices tended to result in lower intraoperative bleeding compared to conventional techniques, but there was no significant difference in the quality of soft tissue healing in the long term.

A two-week postoperative evaluation showed that tissue healing took place in both regions without any signs of infection or complications. The gingival contour appeared more physiological, hyperplastic tissue was gone, and patients reported increased comfort when chewing and maintaining oral hygiene. The findings suggest that both *electrosurgery* and manual techniques are able to provide satisfactory clinical results when preceded by the elimination of etiological factors and inflammatory control. Similar results were also reported by Artika (2022) and Machirah et al. (2023) who showed that the success of gingivectomy was strongly influenced by the condition of the tissue before the surgical procedure was performed.

The success of healing in both techniques is likely to be influenced not only by the type of surgical instrument, but also by the success of early periodontal therapy, including oral hygiene education, *scaling* and *root planing*, as well as modification of antihypertensive therapy before surgery is performed. Biofilm elimination and inflammatory control create more conducive tissue conditions so that healing takes place more optimally and the risk of complications is lower. Therefore, the success of therapy is the result of a comprehensive periodontal approach, not solely determined by the surgical techniques used.(Barsoum et al., 2022; Sanz et al., 2020)

These results are in line with the European Federation of Periodontology (EFP) guidelines which emphasize that the success of periodontal therapy is not only determined by surgical procedures, but also by biofilm elimination, risk factor control, and *sustained supportive periodontal care*. (Sanz et al., 2020)*The British Society of Periodontology* also recommends that the long-term success of periodontal therapy is highly dependent on plaque control, patient adherence to oral hygiene instructions, and periodontal maintenance program after active therapy. The approach aims to maintain the stability of periodontal tissue while preventing recurrence.(West et al., 2021)

In the case of *drug-induced gingival enlargement*, the risk of recurrence can still occur if etiological factors are not optimally controlled. Therefore, in addition to gingivectomy, modification of causative drugs if possible, good plaque control, and regular maintenance visits are important parts of preventing recurrence. Collaboration between periodontists and doctors who treat the patient's systemic diseases is also needed so that periodontal therapy and medical therapy run optimally without interfering with the control of the patient's systemic disease.(Barsoum et al., 2022; Machirah et al., 2023)

Although *electrosurgery* provides the advantages of better hemostasis and more optimal field visibility, the selection of gingivectomy techniques must still consider the clinical indications of each patient. Manual techniques have the advantages of precise incisions, relatively lower costs, and do not cause thermal effects on surrounding tissues, so they are still widely used in periodontal practice. On the other hand, *electrosurgery* is more suitable for use when good bleeding control, action efficiency, and optimal visualization of the operating field are required. Thus, the two techniques should not be seen as substitute methods, but rather as therapeutic options tailored to the patient's clinical condition, operator experience, facility availability, and treatment goals.(Artika, 2022; Squirting et al., 2024; Munshi, 2023)

This case report provides clinical implications that both *electrosurgery* and manual techniques can be used as an option in gingivectomy on gingival enlargement with good healing results when preceded by elimination of etiological factors and inflammatory control. In this case, *electrosurgery* provides the advantage of better bleeding control so that the surgical field

becomes clearer during the procedure, while manual techniques still produce physiological gingival contours with satisfactory healing. These findings suggest that the selection of gingivectomy techniques needs to be tailored to the patient's clinical condition, lesion characteristics, hemostasis needs, and available facilities.

This case report has several limitations. First, the report involves only one patient so that the results obtained cannot be generalized to a wider population. Second, the evaluation of treatment results is carried out up to two weeks postoperatively, so it cannot yet describe the stability of the therapy results or the possibility of recurrence in the long term. Third, the comparison of the two techniques is based only on clinical observations without objective measurements, such as duration of action, bleeding volume, postoperative pain intensity, patient satisfaction level, and healing time. Therefore, studies with a prospective design and a larger sample count are needed to evaluate the effectiveness of *electrosurgery* and manual techniques using measurable clinical parameters.

CONCLUSION

Management of amlodipine-associated gingival enlargement through elimination of local etiologic factors, control of gingival inflammation, and surgical intervention using electrosurgery in the maxillary anterior region and conventional scalpel gingivectomy in the mandibular anterior region resulted in favorable short-term clinical outcomes. At the two-week postoperative evaluation, both treated regions demonstrated improved gingival contours, satisfactory soft-tissue healing, and no signs of infection or postoperative complications. The patient also reported improved comfort during mastication and oral hygiene practices. In this case, electrosurgery provided effective intraoperative hemostasis and improved surgical-field visibility, whereas both techniques demonstrated satisfactory short-term healing. However, the findings from this single case should not be interpreted as evidence of the comparative superiority of either technique.

In cases of drug-associated gingival enlargement, clinicians should obtain a comprehensive medical and medication history and collaborate with the patient’s physician when modification of the causative medication is being considered. Control of local etiologic factors through plaque control, oral hygiene instruction, and scaling and root planing should precede surgical intervention when clinically appropriate. The selection of a gingivectomy technique should be individualized according to lesion characteristics, hemostatic requirements, operator experience, and equipment availability. Electrosurgery may be considered when effective hemostasis and clear surgical-field visibility are important, while conventional scalpel gingivectomy remains an appropriate surgical option. Further studies involving larger samples, standardized clinical measurements, and longer follow-up periods are required to compare healing outcomes and recurrence between the two techniques.

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CONFLICT OF INTEREST

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STATEMENT OF CONTRIBUTION BY THE AUTHOR

All authors contributed to the preparation of this article. The first author played a role in conceptualization, data collection, implementation of patient care, data analysis, manuscript preparation, and article revision. The second author contributed to clinical supervision, interpretation of results, and critical review of the content of the manuscript. All authors have read, approved, and are responsible for the final version of the published manuscript.

GENERATIVE ARTIFICIAL INTELLIGENCE USAGE STATEMENT

The author states that generative artificial intelligence (AI) was used in the preparation of this manuscript. The author acknowledges the use of generative AI to help improve language clarity and improve the grammatical structure of the manuscript. The use is done in compliance with the applicable ethical guidelines regarding the use and disclosure of generative AI in scientific research. Each author has made substantial intellectual contributions to this work. The entire manuscript content has been carefully reviewed to ensure its accuracy, and the author is solely responsible for the integrity and final content of the manuscript.

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