|| ISSN(online): 2589-8698 || ISSN(print): 2589-868X ||

Available online on http://www.ijmbs.info

International Journal of Medical and Biomedical Studies; 2026; 10(1); 1-8

A case report

Fibromatous Epulis of the Maxillary Gingiva in a Hypertensive Patient: A case report

Chindy Septia Ningsih [1], Finnie Luthfia Suheri [2], Yuni Rahmawati [3]

[1] General Dentist, Public Health Satelit, Bandar Lampung District Health Office, Lampung, Indonesia

[2]General Dentist, Public Health Permata Sukarame, Bandar Lampung District Health Office, Lampung, Indonesia

[3] Oral and Maxillofacial Sugery Departement, Airan Raya General Hospital, Lampung, Indonesia

Received: 19-11-2025 / Revised: 17-12-2025 / Accepted: 09-01-2026
DOI: https://doi.org/10.32553/ijmbs.v10i1.3156
Corresponding author: Chindy Septia Ningsih
Conflict of interest: No conflict of interest

Abstract:

Background: Fibromatous epulis is a benign, reactive, non-neoplastic gingival lesion characterized by fibrous connective tissue proliferation secondary to chronic local irritation. The lesion typically originates from the gingival connective tissue, periodontal ligament, or periosteum and is commonly associated with local irritants such as dental plaque, calculus, residual root fragments, and poor oral hygiene. Surgical excision is the treatment of choice; however, management in patients with hypertension requires special perioperative considerations due to the increased risk of bleeding and potential cardiovascular complications.

Case Presentation: A 59-year-old female presented with a large, slowly growing mass in the right maxillary gingiva causing difficulty in mastication and speech. The lesion had been present for approximately 1.5 years. Clinical examination revealed a pedunculated, elastic mass measuring 4×4×3 cm extending from the right maxillary first premolar to the maxillary tuberosity. The patient had a history of hypertension and was taking amlodipine. Radiographic examination showed no bony involvement, while panoramic imaging revealed residual roots of teeth 14 and 15. The provisional diagnosis was a benign soft tissue tumor, with fibromatous epulis as the differential diagnosis.

Management and Outcome: Preoperative medical consultation was performed, and antihypertensive therapy with amlodipine was administered to achieve adequate blood pressure control prior to surgery. Following stabilization, complete surgical excision of the lesion along with extraction of the retained roots was carried out under general anesthesia, and local anesthetic infiltration with a vasoconstrictor is also administered to ensure optimal hemostasis, postoperative pain control, reduction of surgical stress response, and improved postoperative patient comfort. The lesion was completely excised, accompanied by extraction of residual root fragments and bone contouring. Histopathological examination confirmed the diagnosis of fibromatous epulis, characterized by hyperplastic stratified squamous epithelium and fibrous collagenous connective tissue without malignant features. Postoperative healing was uneventful, with no bleeding or recurrence observed at the two-week follow-up.

Conclusion: Complete surgical excision combined with elimination of local irritative factors is an effective treatment for fibromatous epulis. Careful systemic, anesthetic, and psychological

management is essential when performing oral surgical procedures in hypertensive patients to minimize complications.

Keyword: Fibromatous epulis, gingival enlargement, hypertension, oral surgery

Introduction

Hyperplasia is a mechanism frequently involved in the development of tumor-like soft tissue lesions in the oral cavity. Most of these lesions exhibit localized growth. Epulis is a benign gingival tumor-like lesion that develops as a result of chronic and repetitive irritation, which triggers an exaggerated tissue response. According to recent literature, epulis is classified into three main types: fibromatous epulis, granulomatous epulis, and giant cell epulis.

Fibromatous epulis is a gingival enlargement commonly encountered as a consequence of chronic irritation such as calculus, plaque, bacterial accumulation, dental caries, and inadequate oral hygiene.[1]

Clinically, this lesion appears as a firm, pale mass with a narrow base, often pedunculated, firm in consistency, usually painless, and characterized by slow growth.[2] Histopathologically, fibromatous epulis is dominated by connective tissue rich in collagen fibers, covered by stratified squamous parakeratinized epithelium. The stratified squamous epithelium overlying the lesion consists of dense collagen fibers and fibroblasts with minimal vascularity.[3]

Management of fibromatous epulis is performed by surgical excision, either under general anesthesia or local anesthesia. The management of fibromatous epulis in patients with hypertension presents specific challenges related to the risk of bleeding. Hypertension is a vascular disorder that results in impaired delivery of oxygen and nutrients carried by the blood to tissues.[8]

In addition to systemic and clinical oral conditions, minor oral surgical procedures in hypertensive patients must also consider psychological aspects. Psychological factors such as fear, anxiety, and stress may influence the patient's condition. Therefore, preventive measures are required in controlling hypertension during dental treatment, including blood pressure control, management of anxiety and stress, appropriate selection of anesthetic techniques and agents, and effective postoperative pain control.[4]

Case Report

A 59-year-old woman presented to the oral and maxillofacial surgery outpatient clinic at Airan Raya Hospital with a chief complaint of difficulty eating due to a large mass in the right maxillary region. The patient reported that the mass had appeared approximately 1.5 years earlier. Initially small, the mass gradually increased in size, causing pain and discomfort during eating and speaking due to friction with the buccal mucosa. The patient had a history of systemic disease and was routinely taking amlodipine 10 mg.

Physical examination revealed the patient was compos mentis with blood pressure of 220/110 mmHg, pulse rate of 87 beats/min, respiratory rate of 20 breaths/min, and body temperature of 36.6°C. Extraoral examination showed facial asymmetry with swelling of the right cheek due to mass effect. The overlying skin had normal color and temperature, the mass was firm in consistency, slightly fluctuant, painful on palpation, and no palpable lymph nodes were detected.

Intraoral examination revealed a mass measuring approximately 4×4×3 cm, elastic in consistency, pedunculated, and not easily bleeding **(Fig.1).** The mass extended from the right maxillary first premolar to

the maxillary tuberosity. Oral hygiene was poor, with multiple carious teeth and residual root fragments.

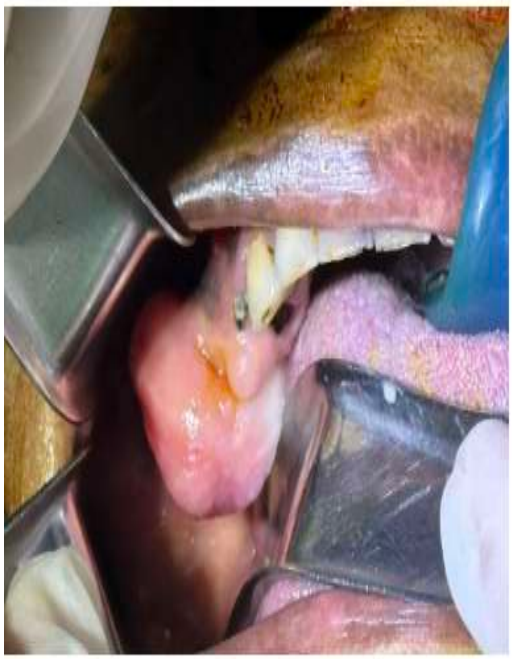

Figure 1. Pre-Operative

Laboratory examination results were within normal limits: hemoglobin 13.6 g/dL, erythrocytes 4.62 × 10^6/µL, hematocrit 40%, bleeding time/clotting time 4/10 minutes, creatinine 0.8 mg/dL, and non-reactive HBsAg. Chest radiography showed no abnormalities **(Fig.2&3).**

Nama Pemeriksaan	Hasil	Angka Normal	Satuan	Keterangan
ELEKTROLIT				
NATRIUM	138	135 - 145 mol/L	mmol/L	
KALIUM	3.6	3.5 - 5.5 mmol/L	mmol/L	
CHLORIDA	110 *	96 - 106 mmol/L	mmol/L	
CALCIUM ION	1.13	1.10-1.35 mmol/L	mmol/L	
HEMATOLOGI				
HEMATOKRIT (HT)	40	35-45%	%	
HEMOGLOBIN (HB)	13.6	12-16 g/dL	g/dL	
LEUKOSIT	8200	3200-10000 MM3	MM3	
BASOFIL	0	0-2%	%	
EOSINOFIL	4	0-6%	%	
NETROFIL SEGMEN	52	36-73%	%	
NETROFIL STAB	0	0-12%	%	
LIMFOSIT	39	15-45%	%	
MONOSIT	5	0-11%	%	
TROMBOSIT (DEWASA)	296000	150000-380000 sel/mm3	sel/mm3	
MCV	87	80-100 fL	fL	
MCH	30	28-34 pg/sel	pg/sel	
MCHC	34	32-36 g/dL	g/dL	
CT	4	1-7 MENIT	MENIT	
CT	10	6-14 MENIT	MENIT	
ERITROSIT	4.62	3.8-5.0 sel/mm3	sel/mm3	
IMUNO-SEROLOGI				
HbsAg	NON REAKTIF	NON REAKTIF	NON	
KIMIA DARAH				
GLUKOSA DARAH (GDS) DEWASA	176	70-200 mg/dL	mg/dL	
UREUM	18 *	20-40 mg/dL	mg/dL	
KREATININ	0.8	0.6-1.3 mg/dL	mg/dL	
ALT/SGPT	23	5-35 U/L	U/L	
AST/SGOT	15	5-35 U/L	U/L	

Figure 2. Laboratory test results

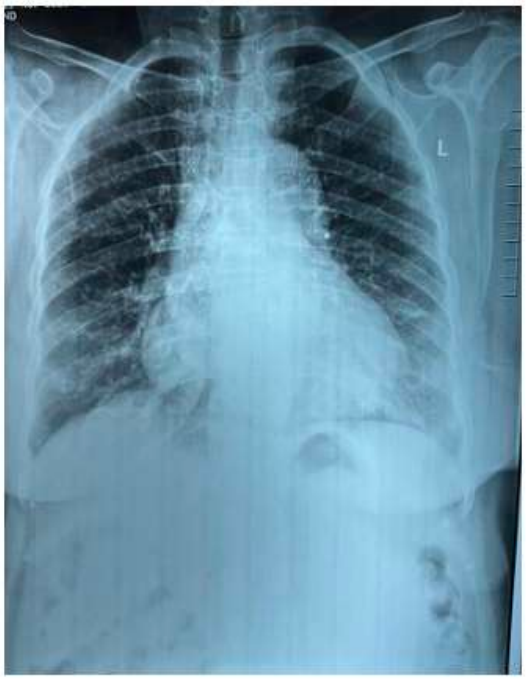

Figure 3. Chest X-Ray Examination Result

Panoramic radiography demonstrated no bony involvement and revealed residual roots of teeth 14 and 15. Based on clinical and radiographic findings, the lesion was diagnosed as a suspected benign soft tissue tumor, with fibromatous epulis as the differential diagnosis.

Management

The patient underwent a minor surgical procedure in the operating room, consisting of lesion excision under general anesthesia, followed by histopathological examination. Prior to surgery, the patient with a history of hypertension was referred for consultation with an internal medicine specialist. Based on the consultation, preoperative administration of amlodipine 5 mg was recommended, with regular blood pressure monitoring. Furthermore, according to the recommendation of a cardiology specialist, nospirinal was prescribed at a dose of 80 mg for 24 hours postoperatively, provided that no signs of bleeding were observed. The surgical risk was classified as mild to moderate.

General anesthesia was selected considering the patient's condition (ASA II classification) and the large size of the mass

(approximately 4×4×3cm), which extended to both buccal and palatal regions.

After induction of anesthesia, aseptic preparation was performed using 10% povidone-iodine solution on the extraoral area, followed by intraoral disinfection. Sterile draping and placement of an oropharyngeal pack were carried out. Additional local anesthesia was administered using infiltration technique on the buccal and palatal areas with a local anesthetic containing epinephrine at a concentration of 1:80,000 to achieve hemostasis in regions 14, 15, 16, and 17 **(Fig.4)**.

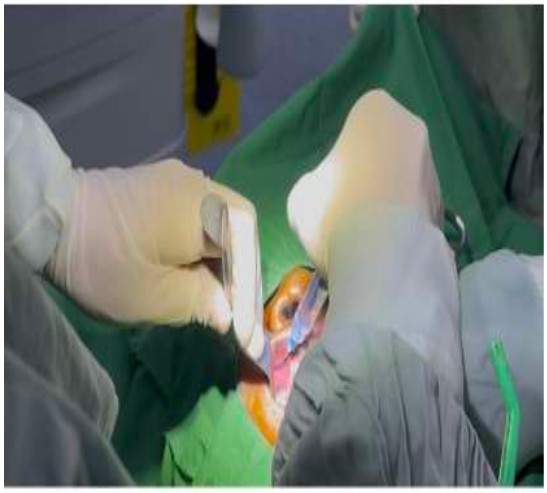

Figure 4. Pehacain Injection

The administration of local anesthesia during dental surgery, serves several important purposes:

1. Postoperative pain control
   Local anesthesia provides prolonged analgesic effects after the patient regains consciousness from general anesthesia, thereby reducing postoperative pain and decreasing the need for systemic analgesics, such as opioids.
2. Reduction of surgical stress response
   Local pain blockade can attenuate the sympathetic response to surgical stimuli, including elevations in blood pressure and heart rate, thereby helping to maintain hemodynamic stability during and after the procedure.
3. Hemostatic effect (when combined with vasoconstrictors)
   Local anesthetic agents containing vasoconstrictors (epinephrine) reduce local blood flow, resulting in minimal intraoperative bleeding and improved surgical field visibility.
4. Improved postoperative patient comfort
   Patients generally experience greater comfort during the early recovery phase, as pain and discomfort at the surgical site are better controlled.

An envelope flap incision was made using a scalpel with a No. 15 blade from region 14 to 17. The flap was elevated using a periosteal elevator until the boundary between the epulis and healthy gingival tissue was clearly identified **(Fig.5)**.

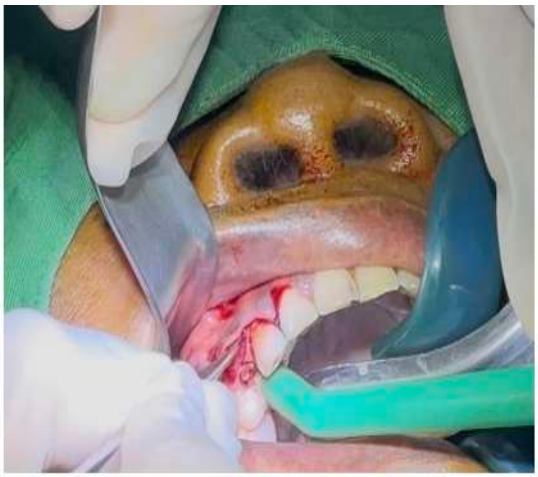

Figure 5. Mucoperiosteal flap incision

Complete excision of the lesion was performed by carefully separating the epulis from the surrounding healthy tissue **(Fig.6)**.

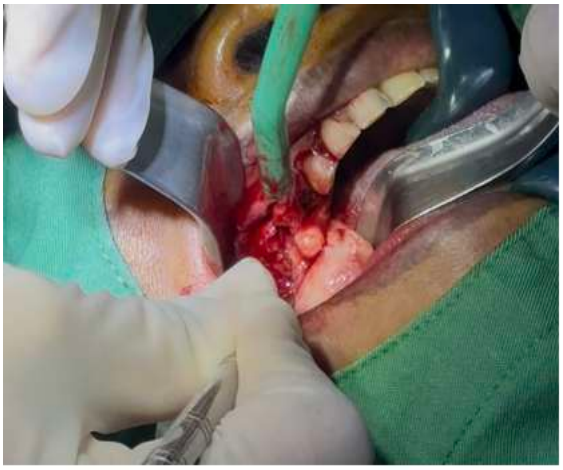

Figure 6. Epulis Excision

Subsequently, extraction of the residual roots of teeth 14 and 15 was carried out, followed by smoothing of sharp bony edges using a bone file **(Fig.7)**. The surgical area was irrigated with saline solution, and gingival repair was completed using sutures with 3-0 PGA **(Fig.8)**. The excised mass was placed in a formalin container and sent for histopathological examination **(Fig.9)**.

Figure 7. Extraction of Residual Tooth Roots

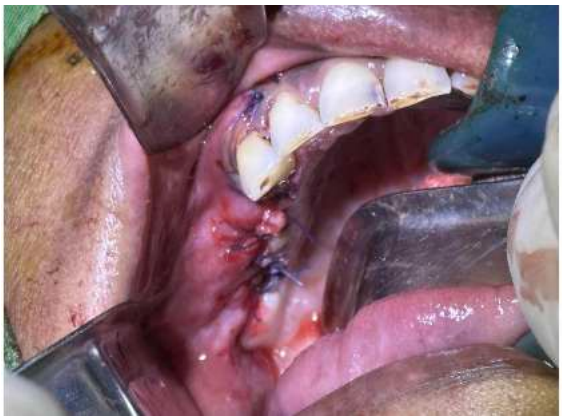

Figure 8. Post-Operative

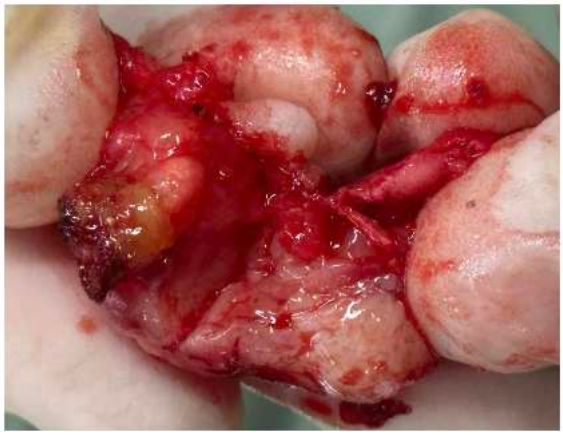

Figure 9. Epulis Mass After Excision

Postoperatively, the patient received intravenous ceftriaxone 1g/12 hours IV, ketorolac injection 30 mg/12 hours, and methylprednisolone 62.5 mg. Discharge medications included cefixime 500 mg twice daily, mefenamic acid 500 mg twice daily, and antacids 500 mg twice daily. The patient was instructed to maintain a soft diet, bite on a tampon, and maintain proper oral hygiene.

The patient was advised to return for follow-up two weeks after the procedure. At the follow-up visit, clinical examination of the surgical site revealed no bleeding or inflammation, good wound closure, and gingival color comparable to surrounding tissues. The patient reported improved mastication and absence of pain. Suture removal and saline irrigation were performed during this visit **(Fig.10).**

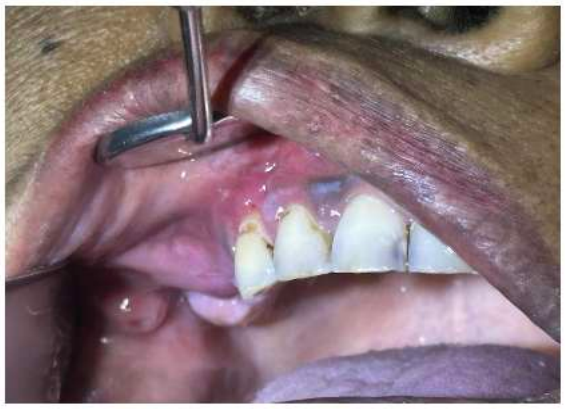

Figure 10. Follow-up After Two Weeks

Histopathological examination revealed a specimen covered by hyperplastic stratified squamous epithelium with a polypoid appearance. The subepithelial layer consisted of hyperplastic fibrous collagenous connective tissue arranged in fascicles, with partial hyalinization, vascular components, and perivascular lymphocytic infiltration. No malignant tumor cells were observed **(Fig.11&12)**.

Makroskopis	Mikroskopis
DITERIMA SEBUAH JARINGAN UKURAN 2x2x1 CM WARNA PUTIH PADA LAMELASI PADAT PUTIH	SAMPEL SEDIAAN DILAPISI EPITEL GEPENG BERLAPIS YANG HIPERPLASTIS, POLIPOID INTI DALAM BATAS NORMAL, SUBEPITELIAL TERDERI DARI STROMA JARINGAN IKAT FIBROKOLAGEN YANG HIPERPLASTIS TERSUSUN FASIKULUS SEBAGIAN HYALINISASI DISERTAI DILATASI VASKULER DAN INFILTRASI LIMFOSIT PERIVASKULER, TIDAK TAMPAK SEL TUMOR GANAS
Kesimpulan	EPULIS FIBROMATOSA GINGGIVA MAXILLA DEXTRA

Figure 11. Histopathological Examination Results

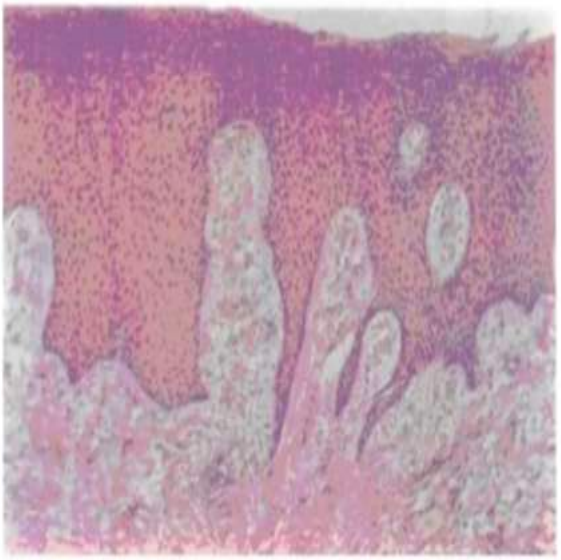

Figure 12. Histopathological Features

Discussion

Fibromatous epulis represents a reactive proliferation of fibroblasts and collagen fibers arising as a response to chronic irritation. This enlargement is classified as a benign tumor-like lesion, non-neoplastic in nature, and characterized by slow growth. Once the lesion reaches a certain size, further growth may cease. Epulis is typically asymptomatic, pedunculated or sessile, with elastic consistency, but may cause difficulty in mastication when large.

In this case, the etiology of fibromatous epulis was related to sharp residual tooth roots. In the oral cavity, local irritants—particularly physical irritants-stimulate submucosal connective tissue, periodontal ligament, or periosteum, causing friction with the buccal mucosa. As reported by Paralles et al., local tissue irritation by bacterial agents and cellular debris may induce pericoronal tissue hyperplasia.[5]

Fibromatous epulis is most commonly found in the anterior region of the dentition, accounting for approximately 57–71% of cases. In this report, the lesion occurred in a 59-year-old female patient. This finding is consistent with studies by A. Tajrin et al., which reported that fibrous lesions frequently occur in adults aged 21–60 years. Other studies have shown a higher prevalence in females, possibly influenced by elevated estrogen levels, which are considered to support lesion formation and growth. The pathophysiology begins with a soft mass of red granulation tissue that becomes inflamed and undergoes complete epithelialization, transforming into a firm lesion with a reddish surface that may bleed easily. Over time, it develops into a fibrous mass. Fibromatous epulis originates from the periosteum and alveolar process, beginning with granulation tissue formation that thickens under chronic irritation, leading to keratinization without significant vascularization and resulting in fibrous hyperplasia.[6]

Hypertension management in this case involved consultation with an internist and cardiologist prior to surgery to normalize blood pressure. According to Nagni et al. (2004), uncontrolled hypertension (systolic >140 mmHg or diastolic >90 mmHg) contraindicates dental intervention, and treatment should be postponed until blood pressure is adequately controlled. Optimal blood pressure for minor oral surgery is systolic <160 mmHg and diastolic <99 mmHg, requiring intensive monitoring and care.[9]

Setiawati and Annisa (2024) stated that hypertension is a medical condition that affects a patient's ability to tolerate surgical procedures; therefore, hypertension should be managed prior to dental surgical intervention.[10] Dental management guidelines for hypertensive patients are summarized in Table 1.

Table 1. Guidelines for Dental Management in Patients with Hypertension

Category	Modification of Dental Care
Normal	No modification in dental treatment is required.
Pre-hypertension	No modification in dental treatment is required. Blood pressure should be monitored at every visit.
Stage 1 Hypertension	Inform the patient of the findings. Medical consultation or referral is recommended. Blood pressure should be monitored at each appointment. No modification in dental treatment is required; however, stress should be minimized
Stage 2 Hypertension	Inform the patient. Medical consultation or referral is required. Blood pressure should be monitored at each appointment. If systolic blood pressure is <180 mmHg and diastolic blood pressure is <110 mmHg, selective dental care may be performed (routine examinations, prophylaxis, non-surgical endodontic, restorative, and periodontal procedures) with stress minimization. If systolic blood pressure is ≥180 mmHg or diastolic blood pressure is ≥110 mmHg, immediate medical consultation or referral is indicated, and only emergency dental treatment should be provided (to relieve pain, control bleeding, or manage infection), with strict stress reduction. Stress-reduction protocols should be considered.

According to Lestari et al. (2023), the risks associated with tooth extraction in patients with hypertension include the following:

a. Risks associated with local anesthesia. The local anesthetic solution commonly used is lidocaine combined with epinephrine. Intravascular injection of epinephrine may induce tachycardia (palpitations) and an increase in stroke volume, leading to elevated blood pressure. Another potential risk is myocardial ischemia due to reduced oxygen supply to the cardiac muscle, which may present as chest pain and, in severe cases, may result in fatal outcomes, including myocardial infarction.
b. Risk of bleeding
   Bleeding may occur in the form of prolonged or difficult-to-control hemorrhage during tooth extraction. Excessive bleeding can lead to a decrease in hemoglobin levels or red blood cell count, resulting in anemia.[11]

Management of fibromatous epulis in hypertensive patients classified as ASA II requires careful consideration. Although ASA II hypertension typically refers to blood pressure levels of 140/90–159/99 mmHg that are medically stable, this patient presented with a preoperative blood pressure of 220/110 mmHg, which constitutes a hypertensive crisis. Uncontrolled blood pressure during or immediately after surgery may increase intravascular pressure, potentially disrupting newly formed blood clots and triggering secondary postoperative bleeding. Therefore, comprehensive preventive and control strategies addressing systemic, clinical, and psychosocial factors were applied in this case.

These strategies included scheduling surgery in the morning and creating a comfortable environment, as well as appropriate selection of anesthesia. General anesthesia was chosen due to patient anxiety, age over 50 years, the need for optimal bleeding control, pain management, prevention of infection and inflammation, and reduction of postoperative complications.

Additional local anesthesia using an anesthetic agent containing epinephrine (1:80,000) was administered at the surgical site to minimize intraoperative bleeding and reduce postoperative pain, as pain can elevate blood pressure.

The posterior maxillary epulis region receives vascular supply from the superior alveolar artery and the palatine artery. Innervation includes the posterior superior alveolar nerve, middle superior alveolar nerve, and buccal nerve, which emerges from the foramen rotundum. The palatal region involves the greater palatine nerve. In this case, the peduncle of the epulis was located on the buccal aspect and originated from the periosteum.[3]

After elevation of the mucoperiosteal flap, the lesion could be completely excised. Definitive management involved total excision of the epulis, separation from healthy periodontal tissues, elimination of other possible lesions or neoplasms, extraction of teeth 14 and 15, curettage of the underlying bone, and confirmation through histopathological examination.

Conclusion

Fibromatous epulis is a benign reactive gingival lesion that can reach considerable size when chronic local irritative factors persist. Complete surgical excision combined with elimination of the underlying sources of irritation is essential to achieve favorable outcomes and prevent recurrence. In patients with systemic conditions such as hypertension, thorough preoperative assessment and careful perioperative management are crucial to minimize the risk of bleeding and cardiovascular complications. Appropriate selection of anesthetic techniques, effective hemostasis, and adequate postoperative care contribute to successful healing. This case highlights the importance of an interdisciplinary and individualized approach in managing oral surgical lesions in hypertensive patients.

References

1. Marina Radanovic, et al. Fibrous epulis: case report. *Biomedicinska Istraživanja.* 2022;13(1): 79-84.
2. Sandra Fatori, Roksolana Burlaka, Heinz Theo, Reinhild Zenklusen. Epulis Fibrimatosa Ein Fallbericth Aus Der Praxis. Swiss Dental Journal. 2024. Vol. 134.
3. Mubarok Husni, Rasul Irfan, Nurwahida. Management of Giant Fibromatous Epulis:a Case Report. Makassar Dental Journal. 2019.
4. Dinesh Kumar Jain, et al. Giant Ossifying Fibroma (Epulis) in an Elderly Patient: a Case Report. Indian J Otolaryngol Head Neck Surgeon. 2025. Feb; 77 (2): 1050-1054.
5. Sumarta, Kamadjaja. Fibrous Epulis Associated with Impacted Lower Right Third Molar. Dental Journal. 2009. Vol. 42, No. 4.
6. Wijaksana, Pinahh. Surgical Excisionof Fibrous Epulis in Generalized Periodontitis Stage III Grade C. Dental Journal. 2022. August. Vol 16, No.2: 96-102.
7. Gustivanny Dwipa A, Hasanuddin Thahir, Sri Oktawati, Ira Farwiany Syafar, Muhammad Yudin. Management of Fibrous Hyperplasiain Geriatric Patient with Hypertension: a Case Report. International Online Seminar Series on Periodontology in Conjunction with Scientific Seminar, KnE Medicine. 2022. Vol. 2022: 23-32.
8. Rahman, Amir. Efek Pencabutan Gigi Terhadap Peningkatan Tekanan Darah pada Hipertensi. Jurnal Kesehatan Andalas. 2017. 6(1).
9. Jadhav, A.N., Tarte, P.R. Acute Cardiovascular Complications in Patients with Diabetes and Hypertensions Management Consideration for Minor Oral Surgery. Journal of the Korean Association of Oral and Maxillofacial Surgeons. 2019. 45(4): 207.
10. Setiawati, D., & Annisa, A. Management of Chronic Periodontitis in Hypertensive Patients. Makassar Dental Journal. 2024. 13(1): 64-67.
11. Lestari, N., Lauddin, T., & Amir, A.M.I.M. Indikasi dan Kontraindikasi Pencabutan Gigi. *DENThalib Journal*. 2023. 1(3): 73-79.