

## Mandibular third molar odontectomy and drug of choice: a case report

Leonardo Jaya Setiadi Tanumiharja<sup>1\*</sup>, Yohanes Yoppy Purnomo<sup>2</sup>, Tio Pradana<sup>3</sup>, Winny Suwindere<sup>4</sup>, Marvin Jaya Setiadi Tanumiharja<sup>5</sup>, Sharon Angelica Caroline<sup>6</sup>

<sup>1,3,5,6</sup>Rumah Sakit Gigi dan Mulut Maranatha, Universitas Kristen Maranatha, Bandung, Indonesia

<sup>2</sup>Departemen Ilmu Bedah Mulut, Fakultas Kedokteran Gigi, Universitas Kristen Maranatha, Bandung, Indonesia

<sup>1,4</sup>Fakultas Kedokteran Gigi, Universitas Medika Suherman, Cikarang, Indonesia

### ARTICLE INFO

#### Article history:

Received Mar 25, 2026

Revised Apr 1, 2026

Accepted Apr 8, 2026

#### Keywords:

Drug of Choice

Impacted

Mandibular Third Molar

Odontectomy

### ABSTRACT

Impacted tooth is an abnormal tooth eruption, usually caused by adjacent tooth near it or pathologic tissue. Impacted tooth is partially erupted or cannot be erupted entirely because it is blocked by bone or surrounding soft tissue or even both. The odontectomy procedure performed was the same as in other odontectomy cases. Initially, a flap was made to get a field of view, and division of the tooth structure was carried out in the lower third molar teeth into several parts. The results shown one week after the odontectomy procedure, no abnormalities were found and healing in the bones and soft tissue were seen after the procedure. From this case report, it can be concluded that in post-operative impacted tooth management, a minimum traumatic technique should be applied and the correct drug of choice and time of administration can give a high effective effect of managing patient's discomfort and high yield of infection prevention.

This is an open access article under the [CC BY-NC](https://creativecommons.org/licenses/by-nc/4.0/) license.



### Corresponding Author:

Leonardo Jaya Setiadi Tanumiharja,

Kedokteran Gigi,

Universitas Kristen Maranatha,

Jl. Prof. drg. Soeria Soemantri No.65, Sukawarna, Kec. Sukajadi, Kota Bandung, Jawa Barat, 40164,

Indonesia

Email: [leonardo.setiadi.t@gmail.com](mailto:leonardo.setiadi.t@gmail.com)

## INTRODUCTION

An impacted tooth is a tooth that has partially erupted or cannot erupt because it is blocked by surrounding teeth, bone or soft tissue (IT Putri, Pramasari, & Samad, 2024),(Handayani, Pinurbo, & Mahyuza, 2023). Impacted teeth often occur in the lower third molar (M3), upper M3, upper canine, and lateral incisor. It can also occur in the lower canine and upper and lower premolars. Impacted teeth are divided into two conditions: full impaction or total impaction and partial impaction (Ridhwan, Dewi, & Triyanto, 2026),(Idaryati & Santhi, 2025).

Odontectomy is the removal of a tooth that is unable to grow or has partially grown (impacted) where the tooth cannot be removed by means of normal forceps but is preceded by the creation of a mucoperiosteal flap (Nidia, 2025),(Lumbantoruan, 2025), followed by the removal of the undercut bone that prevents the tooth from being removed, so that good preparation and a

precise and correct surgical plan are required in carrying out the surgical removal of the buried lower molar, to avoid unwanted complications.(Astrid Nurqodri, 2021),(Astrid Nurqodri, 2021). Odontectomy can be performed in two ways, namely by removing the tooth intact and by separation (Hayana, 2021).

Pain, facial edema, and trismus originate from the inflammatory process that results in the release of proinflammatory cytokines (tumor necrosis factor alpha, interleukin 1 and interleukin 6) thereby activating the cyclooxygenase pathway and increasing prostaglandins in the wound area which will increase peripheral nociceptors and stimulate the appearance of inflammatory symptoms (ANDRIANSYAH, 2024),(Nilawati, 2024). Tumor necrosis factor alpha is the earliest and most potent mediator of the immune response, making it a highly sensitive parameter after surgical trauma. The intensity and severity of pain, facial edema, and trismus can be controlled pharmacologically, including with the use of nonsteroidal anti-inflammatory drugs (NSAIDs) (Nilawati, 2024),(TOBA, 2025). Anti-inflammatory drugs can inhibit or suppress the inflammatory response, reduce the production of pro-inflammatory cytokines, and prevent and minimize clinical signs of inflammation (Pauzan, 2025),(Fратиwi, Saranani, Agastia, & Isrul, 2022).

Several medications are prescribed, one of which is an analgesic. Analgesics are prescribed to relieve post-odontectomy discomfort.(Maulana, 2024),(Nasif, Dillasamola, & Andini, nd). Prescribed medications after surgery will work after the wound injury and acute post-operative inflammatory process have passed and therefore cannot prevent the onset of acute inflammatory processes and discomfort as the effects of local anesthesia wear off (Fajarianto, 2025),(Nubailah, 2025). Pain, facial edema, and trismus occur as a result of the release of chemical mediators produced after tissue trauma, so preoperative analgesic administration should contribute more to reducing the concentration of these mediators in the tissue and regulating prostaglandin release and minimizing drug side effects compared to postoperative drug administration.(Nilawati, 2024),(Fajarianto, 2025)The purpose of this case report is to deepen the selection of medication for minor surgical procedures of odontectomy so that complications and the risk of infection in patients are minimized (Winarsi, 2022),(EARLY, 2022).

## RESEARCH METHOD

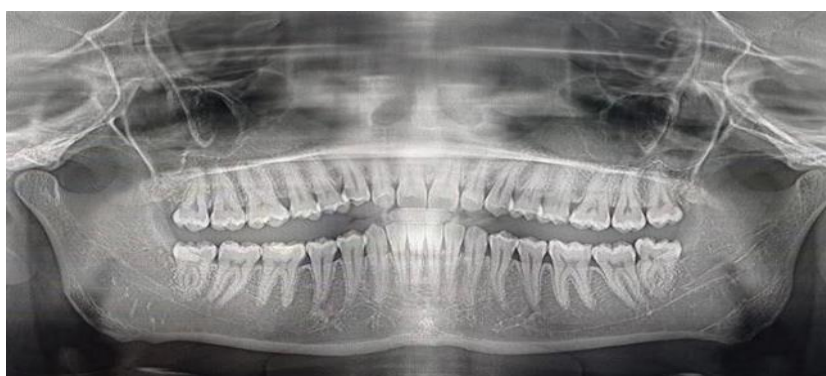
A 22-year-old female patient presented with a complaint of pain in her lower right back tooth when chewing, which had been present for the past 6 months and required extraction. She reported that the tooth had been painful several times when chewing because part of it was still covered by gum. Now the tooth is pain-free, even when chewing. She reported that the tooth interfered with chewing, causing her to chew on the opposite side. She wanted the tooth extracted immediately to prevent further pain. She was not suspected of having any medical or allergic history and was not taking any medications or undergoing any treatment. She had undergone scaling and filling treatment 9 months ago and had no complaints or problems during the treatment. Her family did not suspect any systemic disorders or allergies (Rusminah, Hikmah, & Oscandar, 2020), (Ramdhani & Setiawan, 2025).

At the beginning of the visit, the patient underwent an objective examination first and it was found that the patient's general condition was compos mentis (fully conscious), blood pressure 114/77 mmHg, respiration 20x/minute, pulse 75x/minute, and body temperature 36.5°C. The results of the patient's extraoral examination were within normal limits. The patient's face was symmetrical, on eye examination it was found that the sclera was non-icteric, the conjunctiva was non-anemic, and the pupil was isochorous. On examination, the lymph nodes were not palpable, not painful. The patient's TMJ examination showed a deviation to the right of +/- 1mm. Intra-oral examination, there was a Type 1A Impacted tooth 48 with pressure (-), percussion (-), mobility (-), vitality (+), and the tissue around tooth 48, there was operculitis in the distal part of tooth 48.



**Figure 1.** Clinical picture of teeth 48

On radiological examination, a radiopaque image was observed in the tissue surrounding tooth 48. The diagnosis of this case is impacted tooth 48 type 1A. The treatment plan that will be given is pro-extraction of tooth 48 and pro-medication. The actions that will be performed are mandibular block anesthesia and buccal infiltration for the extraction of tooth 48 accompanied by odontectomy.



**Figure 2.** Panoramic view of the patient

In patient preparation, draping was performed from extra-oral to intra-oral using 10% povidone iodine. Extra-oral draping was performed to cover the area not covered by sterile draping, gauze was dipped in 10% povidone iodine with an inside-to-outside anticlockwise movement. Intra-oral draping was performed with gauze dipped in 10% povidone iodine and then applied inside-to-outside anticlockwise to the extracted tooth (tooth 48) and the injection site. Mandibular block anesthesia was performed using the Fisher 1-2-3 technique and buccal nerve infiltration on tooth 48. The anesthetic material used was pehacain, each ml of which contained 20 mg of lidocaine HCl and 0.0125 mg of adrenaline. An incision line was made starting from the middle of the distal part of the 3rd molar to the distal part of the second molar (flap envelope). The incision was made with blade no. 15. Bone removal covering the buccal and proximal impacted teeth was carried out using a bone bur with 0.9% NaCl irrigation.



**Figure 3.** (A) Extra-oral draping using 10% povidone iodine; (B) Mandibular block anesthesia using the Fisher 1-2-3 technique; (C) Envelope flap incision using a no. 15 blade; (D) Tooth splitting with a bone bur accompanied by 0.9% NaCl irrigation; (E) Elevation of the tooth that has been divided into two using a straight elevator; (F) Removal of the loose tooth with mandibular third molar extraction forceps; (G) Curettage with a Hemingway curette; (H) Irrigation with 0.9% NaCl and 10% Povidone Iodine (1:1); (I) Smoothing the bone of the extraction socket with a bone file; (JK) Suturing using the interrupted suture technique; (L) Application of a tampon soaked in 10% povidone iodine to control bleeding

In this case, tooth extraction is performed because less bone removal will result in less trauma. In this case, tooth extraction is performed by dividing the tooth into two parts. This is followed by using an elevator/bein to break the tooth into two parts from the bifurcation area. The remaining impacted tooth is pushed into the gap formed using root remnant forceps using a straight elevator previously used in the mesiobuccal region. The tooth is removed from the socket with an elevator/bein. Debridement is performed by cleaning the surgical wound, smoothing sharp bone, and cleaning the tooth socket of remaining bone fragments or necrotic tissue by irrigating it with an antiseptic solution (povidone iodine or H<sub>2</sub>O<sub>2</sub>). The flap is closed and restored with simple interrupted suturing. The patient is instructed to bite a tampon soaked in 10% povidone iodine on the surgical site to reduce bleeding.

#### Post-Operative Instructions

After undergoing an odontectomy, patients should receive instructions on how to care for the wound to ensure optimal healing and prevent complications. Particular attention should be paid to the surgical site from the first 24 hours until three days after the procedure. Immediately after the odontectomy, patients are instructed to bite on a tampon for 30–60 minutes, and the tampon can be replaced with a sterile tampon as needed. Patients are advised to avoid sucking or playing with the extraction site with their tongue or fingers, and to refrain from chewing on the opposite side for approximately 24 hours. Patients are also advised to contact their doctor immediately if they experience any symptoms or reactions to medications.

Additionally, patients are advised not to rinse or spit too often; if there is a mixture of blood and saliva, it is best to swallow it. Hot food and drinks should be avoided for the first 24 hours. Patients are scheduled for a follow-up visit one week later to remove stitches and evaluate the condition of the oral cavity. Good oral hygiene should still be maintained, and prescribed medications, including antibiotics, anti-inflammatories, and analgesics, should be taken regularly as directed (Restuning, 2022),(ZPK Putri, 2016).

#### Control

After one week, the patient was scheduled to return for a follow-up and have the stitches removed. An intraoral examination revealed that the wound had begun to close and there were no problems with healing. The patient reported taking the prescribed medication as directed by the junior dentist and following the education provided. The patient experienced no pain two days after the odontectomy procedure, and the analgesic medication was discontinued. The patient was instructed to continue caring for the scar and maintain good oral hygiene.



**Figure 4.** Intra-oral condition 1 week post-odontectomy

## RESULTS AND DISCUSSIONS

Odontectomy is the removal of teeth in a state of being unable to grow or partially growing (impacted) where the tooth cannot be removed by means of ordinary forceps extraction but begins with the creation of a mucoperiosteal flap, followed by the removal of the undercut bone that prevents the removal of the tooth, so that good preparation and a precise and correct surgical plan are needed in carrying out the surgical removal of the buried lower molar, to avoid unwanted complications.<sup>1</sup> Odontectomy can be done in two ways, namely removing the tooth completely and by separation.

Indications for odontectomy on impacted teeth include several specific conditions. This procedure can be performed as a preventative measure against infections caused by delayed or abnormal eruption, such as pericoronitis, and to prevent the development of follicles into pathological conditions such as odontogenic cysts or neoplasia. Odontectomy is also recommended during the "golden age," when the root length reaches 1/3 to 2/3 and before bone mineralization is complete (around 15-25 years of age). Furthermore, the presence of pathological odontogenic abnormalities is a key indication. This procedure can also support orthodontic treatment plans to correct malocclusion, especially if the impacted tooth causes pain, throbbing pain, or symptoms radiating to the head. Odontectomy is indicated when the impacted tooth appears to be pushing against the second molar, potentially interfering with orthodontic treatment, prosthetics, or conservation measures on the second molar. Neurological complaints such as cephalgia or migraines, the presence of caries in the second molar due to food retention, untreatable caries in the impacted tooth, and periodontal defects in the second molar are also considerations for odontectomy (kHAIRUNNISA, 2020),(Hayana, 2021).

Meanwhile, contraindications for odontectomy include certain conditions, including when the patient does not want the tooth extracted, or when the bone covering the impacted tooth is too thick, requiring a large amount of bone removal, which can prolong healing time and increase the risk of bone fragility or fracture. Furthermore, patients with a history of serious systemic illnesses such as uncontrolled diabetes mellitus, heart disease, or hypertension are also included in the contraindication group (Pratama et al., 2026),(Kristina et al., nd).

The possibility of severe damage to adjacent tissues, such as nerves and adjacent teeth. The medication given in the odontectomy procedure in this case report was the antibiotic amoxicillin 500 mg. The analgesic given was Dexamethasone 0.5 mg which is a glucocorticoid drug and Meloxicam 7.5 mg given as an NSAID. 8-10 The choice of medication given for minor surgical procedures of odontectomy is very important because the operator must be able to address complications and discomfort that may occur before the patient experiences them. 8-10

Antibiotic prophylaxis works not only by destroying bacteria but also by inhibiting their adherence. There are three approaches to the timing of antibiotic administration. The first approach involves administering antibiotics before surgery, which are maintained postoperatively for several days. The second approach, also known as preventive treatment, involves administering antibiotics before or immediately after surgery and maintained for several days. The third option (perioperative) involves administering antibiotics before surgery as a single bolus antibiotic therapy. This can serve as the only antibiotic administered, or an additional second course may be given several hours after surgery.<sup>8-10</sup>

Penicillin is the drug of choice in treating odontogenic infections because it is susceptible to intraoral gram-positive aerobic and anaerobic organisms, organisms found in alveolar abscesses, periodontal abscesses, and necrotic pulp. Aerobic and anaerobic microorganisms are susceptible to penicillin. Patients allergic to penicillin are treated with clindamycin 300 mg, which is the ideal drug of choice, followed by azithromycin and metronidazole-spiramycin. When using prophylactic antibiotics, the potential side effects of antibiotics should be discussed. Often, postoperative antibiotic courses are continued for several days, leading to increased side effects. Complications such as hypersensitivity, nausea, and unnecessary destruction of host commensals are mentioned in the literature. However, most importantly, increasing antibiotic resistance is a challenge to society, and therefore, antibiotic use must be very cautious.<sup>8-10</sup>

Glucocorticoids act at every stage of the inflammatory process to decrease lymphocyte circulation, inhibit capillary dilation and fibroblast proliferation, and alter prostaglandin and leukotriene synthesis. Because suppression of these factors has a profound effect on tissue inflammation, corticosteroids are used in surgical procedures to reduce acute postoperative inflammation. Acute inflammation caused by tissue damage plays a major role in the development of postoperative pain.<sup>8-10</sup>

Due to its potent anti-inflammatory effects, dexamethasone is useful in reducing pain and is currently the most potent anti-inflammatory drug with a long half-life. Dexamethasone is considered safe for periods shorter than two weeks, even at amounts above physiological levels. Acute inflammation caused by tissue damage plays a major role in the development of postoperative pain. Dexamethasone has a long half-life and is the most potent anti-inflammatory drug considered safe for periods of less than two weeks.<sup>8-10</sup>

One NSAID drug, meloxicam, works by inhibiting cyclooxygenase activity and the NF- $\beta$  pathway in endothelial cells. Meloxicam has analgesic and anti-inflammatory activity with low gastric toxicity and functions as a preferential COX-2 inhibitor used in the treatment of acute pain such as toothache and postoperative pain. The pharmacokinetic properties of meloxicam, characterized by a long half-life and lack of accumulation, allow for once-daily administration and translate into clinical benefits such as improved patient compliance.<sup>8-10</sup>

Pre- or post-odontectomy administration of meloxicam is effective in reducing post-odontectomy pain. Meloxicam is used as a premedication to reduce post-operative pain compared with prescriptions after oral surgery. Meloxicam is a COX-2 inhibitor that prevents peripheral sensitization by reducing prostaglandin synthesis at the surgical site, thus preventing the primary mechanism of central sensitization.<sup>8-10</sup>

Absorption of pre-odontectomy medications begins before pain occurs, and therapeutic blood levels are achieved at the onset of pain. Meloxicam can limit peripheral sensitization by reducing prostaglandin synthesis at the surgical site, thus preventing the primary mechanism of central sensitization. Furthermore, pre-odontectomy administration of meloxicam effectively reduces facial edema after odontectomy. A single dose of pre-odontectomy medications can reduce inflammatory mediators compared with post-odontectomy medications.

## CONCLUSION

Extraction of impacted mandibular third molars requires precision and the ability to manage potential complications. Prophylactic antibiotics and NSAIDs administered before an odontectomy have been shown to be more effective in managing patient discomfort than afterward. Patients should be educated and given simple post-extraction wound care instructions to expedite the healing process, reduce discomfort, and reduce post-operative complications.

## References

- ANDRIANSYAH, A. (2024). PENGARUH INJEKSI INTRAMUSKULAR DEKSAMETASON TERHADAP RASA SAKIT, PEMBENGGAKAN DAN TRISMUS PASKA ODONTEKTOMI MOLAR TIGA= THE EFFECT OF INTRAMUSCULAR INJECTION OF DEXAMETHASONE TO REDUCE PAIN, SWELLING AND TRISMUS AFTER THIRD MOLAR ODONTECTOMY. Universitas Hasanuddin.
- Astrid Nurqodri, A. (2021). Perbedaan Tingkat Kecemasan Pasien Sebelum Dan Setelah Tindakan Odontektomi. Poltekkes Kemenkes Yogyakarta.
- AWALIYAH, Z. (2022). ASUHAN KEPERAWATAN PERIOPERATIF PADA PASIEN IMPAKSI GIGI DENGAN TINDAKAN ODONTEKTOMI DI RUMAH SAKIT YUKUM MEDICAL CENTRE LAMPUNG TENGAH TAHUN 2022. Poltekkes Tanjungkarang.
- Fajarianto, S. M. A. (2025). Studi Penggunaan Analgesik Non-Opioid pada Pasien Pasca Operasi Sectio Caesarea (SC)(Penelitian dilakukan di Instalasi Rawat Inap RSUD Haji Provinsi Jawa Timur).
- Fratiwi, N., Saranani, S., Agastia, G., & Isrul, M. (2022). Aktivitas antiinflamasi ekstrak etanol daun kirinyuh (*Chromolaena odorata* L.) dan pengaruhnya terhadap kadar interleukin 6 (IL-6) pada tikus jantan galur wistar. *Jurnal Pharmacia Mandala Waluya*, 1(2), 54-67.
- Handayani, H. D., Pinurbo, R. H., & Mahyuza, A. (2023). Ekstraksi Impaksi Gigi 38 BuccoAngular. In *Prosiding Dental Seminar Universitas Muhammadiyah Surakarta* (pp. 76-83).
- Hayana, L. (2021). PERBEDAAN TINGKAT KECEMASAN PADA TINDAKAN ODONTEKTOMI MENGGUNAKAN ANASTESI LOKAL DAN GENERAL. Poltekkes Kemenkes Yogyakarta.
- Idaryati, N. P., & Santhi, A. A. W. K. (2025). RASIO JUMLAH PASIEN PERIKORONITIS OLEH KARENA GIGI IMPAKSI ANTARA LAKI-LAKI DAN PEREMPUAN SELAMA DI POLI GIGI PUSKESMAS TABANAN I. *Proceeding of Bali Dental Science and Exhibition*, 717-725.
- KHAIRUNNISA, S. (2020). GAMBARAN TINDAKAN ODONTEKTOMI PADA MOLAR KETIGA DI RSUP Dr KARIADI SEMARANG. Universitas Muhammadiyah Semarang.
- Kristina, N., Kep, S., Suratmiti, N. N. N., Fis, M., Sari, N. N. M. S., Kep, M., ... Sari, A. N. P. M. P. (n.d.). BUKU AJAR ASUHAN KEPERAWATAN MEDIKAL BEDAH.
- Lumbantoruan, K. A. (2025). PENGARUH MEDIA E-LEAFLET ODONTECH TERHADAP PENGETAHUAN TINDAKAN ODONTEKTOMI PADA SISWA SMA. Poltekkes Kemenkes Yogyakarta.
- Maulana, M. M. (2024). PROFIL PENGGUNAAN ASAM MEFENAMAT DAN NATRIUM DIKLOFENAK PADA PASIEN POLI GIGI BEDAH MULUT DI RS BALADHIKA HUSADA JEMBER. Universitas dr. SOEBANDI.
- Nasif, H., Dillasamola, D., & Andini, A. F. (n.d.). *Penggunaan Analgesik Pada Pasien Pasca Bedah*. Penerbit Adab.
- Nidia, C. (2025). Pengaruh Media Animasi DontTalks pada Aplikasi Tiktok Terhadap Pengetahuan dan Sikap Tindakan Odontektomi pada Mahasiswa. Poltekkes Kemenkes Yogyakarta.
- Nilawati, N. (2024). EFEKTIVITAS KOMBINASI IBUPROFEN DAN PARACETAMOL INTRAVENA TERHADAP KUALITAS ANALGESIA PASCA OPERASI ODONTEKTOMI MOLAR TIGA= EFFECTIVENESS OF IBUPROFEN AND PARACETAMOL INTRAVENOUS ON THE QUALITY OF ANALGESIA AFTER THIRD MOLAR ODONTECTOMY SURGERY. Universitas Hasanuddin.
- Nubailah, A. M. (2025). Perbandingan Persepsi Nyeri pada Pasien Pasca Operasi Debridement Ulkus Pedis yang Dilakukan Pambiusan Anestesi Umum dengan Anestesi Spinal di Rumah Sakit Islam Darus Syifa/Surabaya. Universitas Muhammadiyah Surabaya.
- Pauzan, P. (2025). Profile anti-inflammatory mechanisms of moringa leaves: a review of preclinical and clinical studies. *Jurnal Biologi Tropis*, 25(3), 2605-2613.
- Pratama, M. Z., Soenarti, S., Sitorus, K., Wahono, C. S., Suryana, B. P. P., & Rahman, P. A. (2026). *Reumatologi pada Lansia*. Universitas Brawijaya Press.
- Putri, I. T., Pramasari, C. N., & Samad, S. (2024). Klasifikasi gigi impaksi molar ketiga mandibula pada masa pandemi COVID-19 pasien di RSUD Abdoel Wahab Sjahrani: Studi Cross-sectional. *Padjadjaran Journal*

- of Dental Researchers and Students*, 8(3), 277-283.
- Putri, Z. P. K. (2016). ASUHAN KEBIDANAN PADA NY. W DENGAN SAKIT KEPALA DI BPM AFAH FAHMI SURABAYA. Universitas Muhammadiyah Surabaya.
- Ramdhani, M. D., & Setiawan, A. (2025). Penatalaksanaan Dental pada Suspect Ectrodactily Ectodermal Dysplasia Clefting Syndrome Dibawah General Anestesi. *Jurnal Impresi Indonesia*, 4(8), 2929-2938.
- Restuning, S. (2022). *Asuhan Kesehatan Gigi dan mulut Pasien Rawat Inap*. Penerbit NEM.
- Ridhwan, F. A., Dewi, T. K., & Triyanto, R. (2026). Analisis Korelasi Motivasi dengan Tingkat Kecemasan pada Pasien Tindakan Odontektomi Impaksi Gigi Molar Ketiga. *Acta Odontologica Indonesia*, 18-22.
- Rusminah, N., Hikmah, Z. N., & Oscandar, F. (2020). Keberhasilan terapi fase inisial periodontal pada gingival enlargement pasien anak dengan hidrosefalus The success of initial periodontal therapy phase in gingival enlargement paediatric patient with hydrocephalus. *Jurnal Kedokteran Gigi Universitas Padjadjaran*, 32(3), 244-249.
- TOBA, A. Y. (2025). PERBANDINGAN ANTARA ANESTESI TANPA OPIOID (ATO) KOMBINASI BLOK BIDANG SERRATUS ANTERIOR DENGAN ANESTESI BERBASIS OPIOID (ABO) TERHADAP PERUBAHAN HEMODINAMIK DURANTE BEDAH, KADAR INTERLEUKIN-6, DERAJAT NYERI, DAN KEBUTUHAN OPIOID PASCABEDAH PADA PEMBEDAHAN MASTEKTOMI RADIKAL MODIFIKASI= A Comparative Analysis of Opioid-Based Anesthesia (OBA) and Opioid Free Anesthesia (OFA) Combined SAPB in Modified Radical Mastectomy: Effect on Hemodynamics Changes Intraoperative, Inflammatory Cytokine (Il-6) Levels, Pain Degree, and Postoperative Opioid Requirements.
- Winarsi, A. (2022). ASUHAN KEPERAWATAN PERIOPERATIF PADA NY. N DENGAN DIAGNOSIS MEDIS OSTEOMYELITIS AKUT AR GIGI 36-37 TINDAKAN ODONTEKTOMI DI RUANGAN CENTRAL OPERATING THEATRE (COT) RUMAH SAKIT PERGURUAN TINGGI NEGERI UNIVERSITAS HASANUDDIN TAHUN 2021= PERIOPERATIVE NURSING CARE TO Mrs. N WITH MEDICAL DIAGNOSIS OF ACUTE AR DENTAL OSTEOMYELITIS 36-37 ODONTECTOMY MEASURES IN CENTRAL OPERATING THEATER (COT) ROOM HOSPITALITY OF STATE EDUCATION, HASANUDDIN UNIVERSITY IN 2021. Universitas Hasanuddin.