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Lingual Split Technique Versus Conventional Buccal Bone Cutting Technique In Removal Of Impacted Mandibular Wisdom Tooth: A Comparative Study

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Abstract:
Background*: The surgical removal of impacted mandibular third molars is one of the most common procedures in oral and maxillofacial surgery. The conventional buccal bone cutting technique and the lingual split technique are two widely used approaches, each with distinct advantages and potential complications. Therefore; the present study aimed to compare the clinical outcomes of two surgical techniques used for the extraction of horizontally impacted mandibular third molars: The Conventional Buccal Bone Cutting Technique and the Lingual Split Technique.*
Materials and Methods*: In this prospective comparative study was carried out on 11 patients with bilaterally impacted third molars which were indicated for surgical extraction were randomly selected of the outpatients' department of Oral and Maxillofacial Surgery Department, Faculty of Dentistry, Ain Shams University, Egypt from November 2023 to November 2025. Technique selection for side was done by coin tossing method for randomization. One side of each patient was operated by Conventional Buccal Bone Cutting Technique and other side was operated by Lingual Split Technique. Comparative analysis was performed for operative time, postoperative trismus, swelling, pain, inflammation, dry socket, hemorrhage, and nerve injury over a 7-day follow-up period.*
Results*: The study included 11 patients with a mean age of 27.19 ± 4.91 years and a slight female predominance (54.5%). The lingual split group showed a significantly longer mean operative time (33.82 ± 8.54 min) compared to the buccal conventional group (24.18 ± 5.25 min, p=0.005). Postoperative swelling and mouth opening changes were similar between groups (p>0.05). Dry socket occurred only in the buccal conventional group (27.3%), while nerve damage appeared only in the lingual split group (36.4%), though both differences were not statistically significant. Postoperative pain and hemorrhage were comparable between the two techniques (p>0.05).*
Conclusion: *Both the lingual split and conventional buccal bone cutting techniques proved effective for impacted mandibular third molar removal, with comparable postoperative outcomes. Although the lingual split method required a longer operative time and showed a tendency toward higher nerve injury risk, it demonstrated fewer dry socket cases. Overall, both techniques are clinically viable, and the choice should depend on surgeon experience and case-specific anatomical considerations.*
Key Word: *Lingual split technique; Buccal bone cutting; Impacted mandibular third molar; Postoperative complications; Operative time*

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I. Introduction

An impacted tooth is one that fails to erupt into its proper position within the dental arch during the normal developmental period due to an obstruction along its eruption path, resulting in either partial or complete impaction.[1] The etiology of impaction may be local or systemic. Among the local causes are the abnormal positioning of adjacent teeth, physical barriers within the eruption pathway, insufficient arch space, increased bone density, retained primary teeth, dental trauma, bone or soft tissue lesions, condensing osteitis, and ectopic development of the tooth germ.[2] Surgical extraction of impacted mandibular third molars is most commonly carried out using the conventional buccal bone cutting technique. However, this procedure is often challenging because of limited surgical access and visibility, and it is associated with various postoperative complications.[3] These complications may include pain, swelling, trismus, incomplete removal of the tooth, nerve injuries, alveolar osteitis, surgical site infection, damage to adjacent teeth, and prolonged operative duration. To address these challenges, the Lingual Split Technique was introduced as an alternative approach for the removal of impacted mandibular third molars. Several studies have compared this method to the conventional buccal approach with respect to surgical difficulty, operative time, and postoperative outcomes.[4]

This study aim to compare between Conventional Buccal Bone Technique and Lingual Split Technique used in the removal of impacted mandibular third molars regarding intraoperative and postoperative complications.

II. Material And Methods

This prospective comparative study was carried out on patients of the outpatients' department of Oral and Maxillofacial Surgery Department, Faculty of Dentistry, Ain Shams University, Egypt from November 2023 to November 2025. A total 11 adult subjects (both male and females) of aged ≥ 18, years were for in this study.

Study Design: Prospective open label observational study.

Study Location: This was from the outpatients' department of Oral and Maxillofacial Surgery Department, Faculty of Dentistry, Ain Shams University, Egypt.

Study Duration: November 2023 to November 2025.

Sample size: 11 patients.

Sample size calculation: The sample size was estimated on the basis of a single proportion design. TBased on a previous study by Singh et al. the difference in operative time between the two techniques is 9.5±7.7 minutes. Using power 90% and 5% significance level we will need to study 9 pairs of teeth (9 patients, 18 teeth total). This number is to be increased to a sample size of 11 to compensate for losses during follow up (25% more than the calculated). Sample size calculation was achieved using PS: Power and Sample Size Calculation software Version 3.1.2 (Vanderbilt University, Nashville, Tennessee, USA.[4]

Subjects & selection method: The study population was drawn from 11 patients with bilaterally impacted third molars which were indicated for surgical extraction were randomly selected. Technique selection for side was done by coin tossing method for randomization. One side of each patient was operated by Conventional Buccal Bone Cutting Technique and other side was operated by Lingual Split Technique.

Inclusion criteria:
1. Patients with bilateral impacted mandibular third molars.
2. Horizontal impacted mandibular third molars is only accepted
3. Both males and females are included in the study.
4. The age group of patients is 18-36 years old.

Exclusion criteria
1. Patients having a history of uncontrolled diabetes, or blood dyscrasias.
2. Patients having acute infections such as pericoronitis, acute alveolar abscess or oral submucous fibrosis.
3. Alcoholic, drug abused and heavy smoking patients.

Procedure methodology

All patients in this study underwent preoperative cone-beam computed tomography (CBCT) imaging to accurately assess the surrounding osseous structures and adjacent vital anatomy before selecting the surgical approach (Figure 1). Informed consent was obtained from each participant after a full explanation of the surgical procedure, its potential benefits, and associated risks. All surgeries were performed under general anesthesia (Figures 2 and 3) in the Major Operating Rooms of the Oral and Maxillofacial Surgery Department, Faculty of Dentistry, Ain Shams University. The study protocol was reviewed and approved by the Research Ethical Committee of the same institution. Prior to incision, the operative field was disinfected with Povidone-Iodine, followed by local infiltration with an anesthetic solution containing adrenaline (Figure 4). In the Conventional Buccal Bone Cutting Technique, a buccal sulcular incision was made from the mesial aspect of the mandibular second molar, extending distally along the external oblique ridge to the anterior border of the ramus (Figure 5). In the Lingual Split Technique, the same incision was performed, in addition to a lingual incision extending from the mesial surface of the second molar to the distal relieving incision along the external oblique ridge (Figure 6). The mucoperiosteal flap was elevated buccally, distally, and lingually to expose the tooth and the surrounding bone. During the lingual split technique, the wide end of Haworth's elevator was positioned along the lingual plate adjacent to the third molar to protect the lingual nerve.

Conventional Buccal Bone Cutting Technique

Bone removal was initiated using a rose head or straight fissure bur mounted on a high-speed 45° handpiece (Figure 7). The crown of the impacted tooth was sectioned (decapitation) using a straight fissure bur under copious saline irrigation (Figure 8). The elevator was applied in a direction facing the second molar to prevent buccal plate fracture (Figure 9). After extraction, the surgical site was inspected for bone fragments, follicles, and granulation tissue before being sutured with 3-0 black silk (Figure 10).

Lingual Split Technique

Following flap reflection, a piezosurgical device was used to create a precise bone window under continuous irrigation with chilled saline. A curved periosteal elevator was placed on the lingual aspect to enhance visibility, safeguard the lingual nerve, and prevent displacement of the tooth into the soft tissue (Figure 11). The osteotomy design included an oblique sagittal cut parallel to the lateral surface of the third molar, extending from its mesial to distal point, with transverse cuts connecting to the lingual plate. Decapitation was performed for Class A and B impactions (Figures 12 and 13). After removal of the alveolar bone with a periosteal elevator, the tooth was delivered in a distolingual direction using a straight elevator. No osteotomy was made on the lingual plate in this technique. All sockets were closed with 3-0 black silk sutures without drainage (Figure 14).

Postoperative Care and Evaluation

Patients received postoperative medications as follows: Augmentin (Amoxicillin + Clavulanic acid) 1 g twice daily for 7 days, Alphintern (Chymotrypsin + Trypsin) thrice daily for 2 days, Brufen 600 mg three times daily for 3 days, and Orovex-H mouthwash for one week.

Evaluation Parameters

Intraoperative time: recorded using a stopwatch from incision to closure. Trismus: assessed by interincisal distance pre- and postoperatively. Facial swelling: measured by the Breytenbach method (tragus–pogonion and lateral canthus–mandibular angle distances). Inflammation and dry socket: recorded as present or absent. Nerve injury: graded according to loss of sensation (0 = none, 1 = mild, 2 = moderate, 3 = severe). Pain: evaluated using the Visual Analog Scale (VAS) from 0 (no pain) to 5 (extreme pain). Postoperative bleeding: observed visually at 30 minutes, 60 minutes, and 24 hours post-surgery. Patients were followed up on postoperative days 1, 4, and 7 to assess wound healing, nerve function, and possible complications.

Figure 1 - Preoperative Panoramic xray

Figure 2 - Anesthesia Machine, Oral and Maxillofacial Surgery Department, Faculty of Dentistry, Ain Shams University

Figure 3 - Major Operations Room, Oral and Maxillofacial Surgery Department, Faculty of Dentistry, Ain Shams University

Figure 4- Preoperative extraoral picture of patient disinfected with Povidone Iodine

Figure 5 - Raised flap in Conventional Technique

Figure 6 - Raised flap in Lingual Split Technique

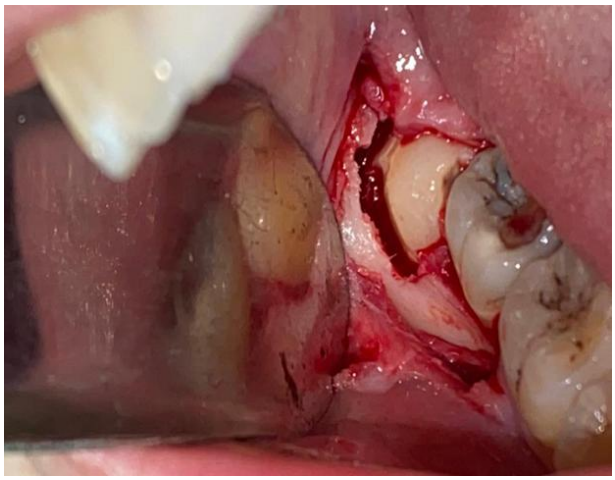

Figure 7 - Bone removal in Conventional Technique

Figure 8 - Tooth sectioning in Conventional Technique

Figure 9 - Warick James and straight elevators used in extraction

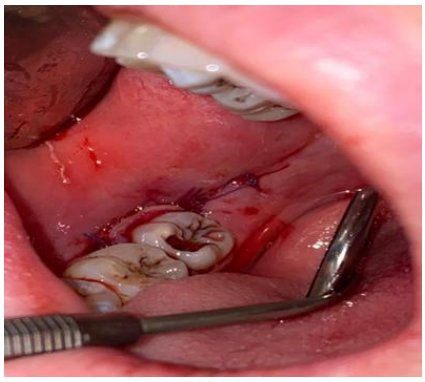

Figure 10 - Suturing

Figure 11 - Piezosurgical Device

Figure 12 - Osteotomy lines in Lingual Split technique

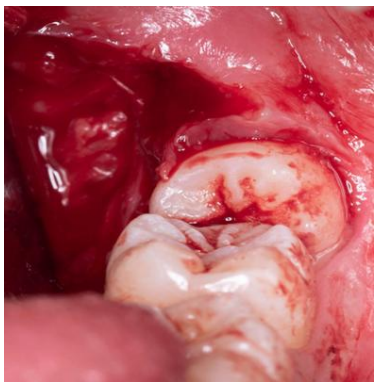

Figure 13 - Bony window in the lingual side of impacted tooth

Figure 14 - Suturing

Statistical analysis

Data analysis was performed using SPSS version 26.0 (IBM Corp., Chicago, IL, USA). Quantitative variables with normal distribution were expressed as mean ± SD and range, while non-parametric data were presented as median and IQR. Qualitative variables were summarized as frequencies and percentages. Data normality was tested using the Kolmogorov–Smirnov and Shapiro–Wilk tests. The independent-samples t-test was applied to compare two means. The Chi-square test was used for categorical comparisons, with Fisher's exact test applied when expected counts were <5. A 95% confidence interval and 5% margin of error were adopted. Statistical significance was defined as $p < 0.05$, and results with $p < 0.001$ were considered highly significant. Values with $p > 0.05$ were regarded as insignificant.

III. Result

Table No. 1 shows the study population consisted of 11 participants with a mean age of 27.19 years (SD ±4.91) and a range of 18 to 36 years. The sample had a slight predominance of females (54.5%) compared to males (45.5%)

Table (1) - Demographic data distribution among study group

Demographic data	Total (n=11)
Age "years"	
Range	18 to 36
Mean±SD	27.19±4.91
Gender	
Male	5 (45.5%)
Female	6 (54.5%)

Table No. 2 shows the lingual split group had a mean time duration of 33.82 minutes (SD ±8.54), while the buccal conventional group had a significantly shorter mean time duration of 24.18 minutes (SD ±5.25). The difference between the two groups was statistically significant (p=0.005).

Table (2) - Comparison between Buccal Conventional Group and Lingual Split Group according to Time Duration

Time Duration	Buccal Conventional Group (n=11)	Lingual Split Group (n=11)	Test value	p-value	Sig.
Mean±SD	24.18±5.25	33.82±8.54	3.188	0.005	S
Range	15.48-33.62	19.34-49.37			

Using: t-Independent Sample t-test for Mean±SD; NS: Non significant; S: Significant; HS: Highly significant

Both groups experienced an increase in swelling 24 hours postoperatively, with a peak on the first day. Swelling gradually decreased over the follow-up period, approaching preoperative values by the 7th day. Although the lingual split group showed slightly higher swelling values on the 24th hour and 4th day compared to the buccal conventional group, the differences between the two groups were not statistically significant ($p>0.05$) at any time point. Both groups experienced a reduction in mouth opening 24 hours postoperatively, with a gradual improvement over the 7-day follow-up period. Although the lingual split group consistently showed slightly better mouth opening values compared to the buccal conventional group at all postoperative time points, the differences between the two groups did not reach statistical significance ($p>0.05$). This suggests that both surgical approaches have comparable effects on postoperative trismus.

Table (3) - Comparison between Buccal Conventional Group and Lingual Split Group according to Postoperative Mouth Opening and Postoperative Sweeling

Postoperative Mouth Opening (Trismus)	Buccal Conventional Group (n=11)	Lingual Split Group (n=11)	Test value	p-value	Sig.
Pre-operative					
Mean±SD	40.66±2.54	40.66±2.54	0.000	1.000	NS
Range	37.3-44.7	37.3-44.7			
24 hrs.					
Mean±SD	30.51±1.47	31.75±1.36	-1.306	0.105	NS
Range	28.5-32.8	29.5-33.8			
4th Day					
Mean±SD	33.50±1.43	34.50±1.57	-1.561	0.134	NS
Range	31.2-35.9	32.1-37.5			
7th Day					
Mean±SD	35.97±1.61	37.35±1.90	-1.839	0.081	NS
Range	33.2-38.9	34.5-40.9			
Postoperative Swelling	**Buccal Conventional Group (n=11)**	**Lingual Split Group (n=11)**	**Test value**	**p-value**	**Sig.**
Pre-operative					
Mean±SD	9.08±0.05	9.08±0.05	0.000	1.000	NS
Range	9-9.15	9-9.15			
24 hrs.					
Mean±SD	11.82±0.23	12.22±0.80	-1.586	0.128	NS
Range	11.5-12.2	10-13			
4th Day					
Mean±SD	10.27±0.29	10.64±0.58	-1.855	0.078	NS
Range	10-11	9-11.1			
7th Day					
Mean±SD	9.39±0.13	9.20±0.10	1.286	0.134	NS
Range	9.2-9.6	9.1-9.4			

Using: t-Independent Sample t-test for Mean±SD; NS: Non significant; S: Significant; HS: Highly significant

Table No. 4 shows the lingual split group showed no cases of dry socket throughout the 7-day follow-up period, whereas the buccal conventional group had a consistent presence of dry socket in 27.3% of patients at all time points. Although the difference between the two groups did not reach statistical significance (p=0.062), the lingual split approach appeared to have a lower risk of dry socket complications.Postoperative inflammation was comparable between the two groups at all-time points. At 24 hours, 4th day, and 7th day, the presence or absence of inflammation did not differ significantly between the buccal conventional group and the lingual split group (p>0.05). The majority of patients in both groups showed no signs of inflammation throughout the follow-up period.

Table (4) - Comparison between Buccal Conventional Group and Lingual Split Group according to Postoperative Inflammation and Postoperative Dry Socket

Postoperative Inflammation	Buccal Conventional Group (n=11)	Lingual Split Group (n=11)	Test value	p-value	Sig.
At 24 hrs.					
Absent	8 (72.7%)	9 (81.8%)	0.259	0.611	NS
Present	3 (27.3%)	2 (18.2%)			
At 4th Day					
Absent	8 (72.7%)	10 (90.9%)	1.222	0.269	NS
Present	3 (27.3%)	1 (9.1%)			
At 7th Day					
Absent	10 (90.9%)	9 (81.8%)	0.386	0.534	NS
Present	1 (9.1%)	2 (18.2%)			
Postoperative Dry Socket	**Buccal Conventional Group (n=11)**	**Lingual Split Group (n=11)**	**Test value**	**p-value**	**Sig.**
At 24 hrs.					
Absent	8 (72.7%)	11 (100.0%)	3.474	0.062	NS
Present	3 (27.3%)	0 (0.0%)			
At 4th Day					

Absent	8 (72.7%)	11 (100.0%)	3.474	0.062	NS
Present	3 (27.3%)	0 (0.0%)			
At 7th Day					
Absent	8 (72.7%)	11 (100.0%)	3.474	0.062	NS
Present	3 (27.3%)	0 (0.0%)			

Using: x2: Chi-square test for Number (%) or Fisher's exact test, when appropriate; NS: Non significant; S: Significant; HS: Highly significant

Table No. 5 shows Nerve damage was observed only in the lingual split group, with 36.4% of patients experiencing some level of nerve damage at all time points. In contrast, the buccal conventional group showed no cases of nerve damage. Although the difference between the two groups did not reach statistical significance ($p>0.05$), the buccal conventional approach appeared to have a lower risk of nerve damage compared to the lingual split approach.

Table (5) - Comparison between Buccal Conventional Group and Lingual Split Group according to Nerve Damage

Nerve Damage	Buccal Conventional Group (n=11)	Lingual Split Group (n=11)	Test value	p-value	Sig.
At 24 hrs.					
0	11 (100.0%)	7 (63.6%)	4.889	0.180	NS
1	0 (0.0%)	1 (9.1%)			
2	0 (0.0%)	2 (18.2%)			
3	0 (0.0%)	1 (9.1%)			
At 4th Day					
0	11 (100.0%)	7 (63.6%)	4.889	0.180	NS
1	0 (0.0%)	1 (9.1%)			
2	0 (0.0%)	2 (18.2%)			
3	0 (0.0%)	1 (9.1%)			
At 7th Day					
0	11 (100.0%)	7 (63.6%)	4.889	0.087	NS
1	0 (0.0%)	2 (18.2%)			
2	0 (0.0%)	2 (18.2%)			
3	0 (0.0%)	0 (0.0%)			

Using: x2: Chi-square test for Number (%) or Fisher's exact test, when appropriate
NS: Non significant; S: Significant; HS: Highly significant

Table No. 6 shows Postoperative pain was comparable between the two groups at all time points, with no statistically significant differences ($p>0.05$). At 24 hours and 4th day, most patients in both groups reported moderate pain (scores 2 and 3). By the 7th day, the majority of patients in both groups reported mild pain or no pain (scores 0 and 1). The pain profiles were similar between the buccal conventional and lingual split groups. Postoperative hemorrhage was minimal and comparable between the two groups. At 30 minutes postoperatively, 2 patients (18.2%) in the lingual split group experienced hemorrhage, while none were reported in the buccal conventional group. However, this difference was not statistically significant ($p=0.138$). By 60 minutes and 24 hours postoperatively, no cases of hemorrhage were reported in either group.

Table (6) - Comparison between Buccal Conventional Group and Lingual Split Group according to Postoperative Pain and Postoperative Hemorrhage

Postoperative Pain	Buccal Conventional Group (n=11)	Lingual Split Group (n=11)	Test value	p-value	Sig.
At 24 hrs.					
0	0 (0.0%)	2 (18.2%)	2.222	0.528	NS
1	1 (9.1%)	1 (9.1%)			
2	5 (45.5%)	4 (36.4%)			
3	5 (45.5%)	4 (36.4%)			
4	0 (0.0%)	0 (0.0%)			
5	0 (0.0%)	0 (0.0%)			
At 4th Day					
0	0 (0.0%)	2 (18.2%)	5.000	0.172	NS
1	1 (9.1%)	3 (27.3%)			
2	4 (36.4%)	4 (36.4%)			

3	6 (54.5%)	2 (18.2%)			
4	0 (0.0%)	0 (0.0%)			
5	0 (0.0%)	0 (0.0%)			
At 7th Day					
0	4 (36.4%)	4 (36.4%)	0.000	1.000	NS
1	4 (36.4%)	4 (36.4%)			
2	3 (27.3%)	3 (27.3%)			
3	0 (0.0%)	0 (0.0%)			
4	0 (0.0%)	0 (0.0%)			
5	0 (0.0%)	0 (0.0%)			
Postoperative Hemorrhage	**Buccal Conventional Group (n=11)**	**Lingual Split Group (n=11)**	**Test value**	**p-value**	**Sig.**
Time 30 min					
Absent	11 (100.0%)	9 (81.8%)	2.200	0.138	NS
Present	0 (0.0%)	2 (18.2%)			
Time 60 min					
Absent	11 (100.0%)	11 (100.0%)	0.000	1.000	NS
Present	0 (0.0%)	0 (0.0%)			
Time 24 hrs					
Absent	11 (100.0%)	11 (100.0%)	0.000	1.000	NS
Present	0 (0.0%)	0 (0.0%)			

Using: x2: Chi-square test for Number (%) or Fisher's exact test, when appropriate; NS: Non significant; S: Significant; HS: Highly significant

IV. Discussion

The surgical extraction of impacted mandibular third molars is among the most frequently performed oral surgical procedures, often required due to insufficient space within the dental arch. This intervention necessitates manipulation of both soft and hard tissues, which may lead to intraoperative and postoperative complications involving nearby anatomical structures such as the inferior alveolar and lingual nerves. Common postoperative sequelae include pain, swelling, and trismus, underscoring the importance of refining surgical approaches to reduce patient morbidity.[5] In recent years, attention has increasingly turned toward comparing different surgical techniques for third molar removal, particularly the Lingual Split Technique and the Conventional Buccal Bone Cutting Technique, with the goal of enhancing recovery and minimizing complications. The present study aimed to evaluate and compare these two approaches in terms of operative time, postoperative complications, and overall surgical convenience. This study was carried out in the Major Operation Rooms of the Oral and Maxillofacial Surgery Department, Faculty of Dentistry, Ain Shams University. Eleven patients (5 males and 6 females) presenting with bilaterally impacted mandibular third molars indicated for extraction were included. A coin-toss method was used to randomize the surgical technique for each side—one operated using the Conventional Buccal Bone Cutting Technique and the contralateral side using the Lingual Split Technique. Evaluated parameters included operative time, postoperative trismus, swelling, inflammation, pain, dry socket, hemorrhage, and nerve injury.

The operative duration was significantly shorter for the buccal approach (24.18 ± 5.25 min) than for the lingual split method (33.82 ± 8.54 min; $p = 0.005$). Other postoperative outcomes—including trismus, pain, swelling, inflammation, dry socket, hemorrhage, and nerve involvement—did not show statistically significant differences between the two methods. These findings support earlier studies suggesting the buccal technique can be faster,[6,7,8] though some reports have noted similar or longer durations for the lingual split when additional care is taken to protect the lingual nerve.[9]

Trismus demonstrated a comparable pattern in both groups. The inter-incisal distance decreased during the first 24 hours and improved by the seventh postoperative day without significant difference ($p > 0.05$), consistent with Singh et al.[4] This trend is likely related to normal postoperative inflammation rather than the surgical approach itself.[10, 11] Although mouth opening was slightly greater in the lingual split group (37.35 mm vs. 35.97 mm on day 7), the difference was not statistically significant. This observation supports Steel,[12] who found only weak evidence favoring the lingual split technique in reducing trismus, a result that may be attributed to the small sample size and consistent surgical standards.

Postoperative swelling followed a similar trajectory in both groups, peaking at 24 hours, subsiding by day 4, and nearing baseline levels by day 7. No significant difference was observed ($p > 0.05$), consistent with findings by Steel.[12] Although earlier reports suggested less swelling with the lingual split approach,[13, 14] more recent reviews highlight that the degree of swelling depends more on tissue handling and irrigation than on the surgical technique itself.[15, 16]

Pain intensity was comparable between both groups at all postoperative intervals. Patients typically reported moderate discomfort initially, which subsided markedly by the seventh day ($p > 0.05$), aligning with findings by Absi & Shepherd[7] and Mocan et al.[9] Other studies have reported reduced pain with the lingual split

technique,[4,6,14] possibly due to less bone removal. The pain reduction pattern in this study corresponds with the results of Wang et al.[18] and Chen et al.[19] who associated lower pain levels with minimal bone trauma and effective irrigation.

Inflammation levels showed no significant differences between the two groups at 24 hours, 4 days, or 7 days postoperatively ($p > 0.05$), in agreement with Singh et al.[7] Regarding dry socket, the buccal approach showed a 27.3% incidence, while no cases were observed in the lingual split group ($p = 0.062$). Although not statistically significant, this absence may have clinical importance. Similar findings were noted by Chen et al.[19] and Singh et al.[4] with Zhang et al.[20] emphasizing that meticulous debridement plays a critical role in preventing alveolar osteitis.

Nerve injury was reported only in the lingual split group (36.4%), presenting as transient sensory disturbance that resolved completely within the observation period ($p > 0.05$). This result supports prior concerns Rud[6] but differs from other studies,[4,12,] which observed no such cases. When performed with proper technique and careful lingual tissue management especially using modern tools such as piezosurgery the risk of nerve injury remains minimal.[20]

Postoperative hemorrhage was also minimal. Two patients (18.2%) in the lingual split group experienced slight bleeding at 30 minutes, but none persisted beyond 60 minutes or at 24 hours. These results are consistent with findings.[4, 7]

V. Conclusion

While the Conventional Buccal Bone Cutting Technique demonstrated a shorter operative time, both techniques were comparable in postoperative morbidity—showing no significant differences in trismus, swelling, pain, inflammation, or bleeding. The Lingual Split Technique showed a possible advantage in dry socket prevention but a slightly higher, though transient, nerve sensory disturbance. With adequate experience and careful execution, the lingual split technique remains a viable and safe alternative for impacted mandibular third molar extraction, especially in cases with limited buccal access or dense lingual plate anatomy.

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