STM JOURNALS

Research & Reviews: A Journal of
Dentistry

https://journals.stmjournals.com/rrjod/

ISSN: 2230-8008 (Online)
ISSN: 2348-9561 (Print)
Volume 16, Issue 2, 2025
May–August
DOI (Journal): 10.37591/RRJoD

Case Study RRJoD

Extraction of Impacted Lower 3rd Molars Immediately After the Single Visit: Endodontic Treatment of 2nd Molar – A Case Series

Maddukuri Raja Sekhar[1,*], Palivela Manvitha[1], Begari Swarnalatha[1], Swetha Puram[2]

Abstract

Patients who visit a dental clinic often anticipate fewer appointments and quicker recovery times. This expectation is particularly relevant when discussing impacted lower third molars in conjunction with decayed second molars. Dentists often struggle with the decision of whether to start endodontic treatment on the second molar or to proceed with extracting the third molar. This dilemma arises due to the absence of sufficient research or documentation specifically addressing the best approach in such cases. Without clear guidelines, treatment decisions are often based on clinical judgment and patient-specific factors. To bridge this gap, this series of case reports aims to highlight the advantages of performing both root canal treatment on the second molar and the extraction of the third molar in a single appointment. This approach may reduce the number of clinical visits, minimize anesthesia use, and promote simultaneous healing, ultimately benefiting both patients and practitioners.

Keywords: Single visit dentistry, endodontic treatment, impaction, 2nd Molars, 3rd molars, extraction

INTRODUCTION

Endodontic therapy, often referred to as a "root canal," is a dental procedure designed to cleanse and seal the infected or damaged pulp chamber and root canals of a tooth. The main goal is to save the tooth by eliminating bacteria and stopping any further infection. This treatment is usually indicated when the pulp becomes inflamed or infected because of extensive decay, trauma, or fractures, thereby enabling the tooth to maintain its functionality and remain free of pain [1–3].

A tooth is impacted when it gets stuck in the gum or jawbone instead of fully coming in. This condition is often caused by insufficient space or an irregular growth angle, with wisdom teeth being the most frequently affected. If untreated, tooth impaction can result in pain, swelling, and other complications, necessitating dental intervention for proper extraction or repositioning of the impacted tooth [4–6].

***Author for Correspondence**
Maddukuri Raja Sekhar
E-mail: sekhar.raja123.rs@gmail.com

[1]Dentist, Department of Dentistry, Area Dental Hospital, KPHB, Hyderabad, Telangana, India
[2]Clinical Head, Department of Dentistry, Area Dental Hospital, KPHB, Hyderabad, Telangana, India

Received Date: March 14, 2025
Received Date: March 31, 2025
Published Date: May 05, 2025

Citation: Maddukuri Raja Sekhar, Palivela Manvitha, Begari Swarnalatha, Swetha Puram. Extraction of Impacted Lower 3rd Molars Immediately After the Single Visit: Endodontic Treatment of 2nd Molar – A Case Series. Research & Reviews: A Journal of Dentistry. 2025; 16(2): 6–11p.

Both treatments necessitate a specific skill set from the dentist and require significant co-operation from the patient, categorizing them as specialty procedures. Consequently, they are typically performed separately, even when a patient experiences pain stemming from both conditions. This series of case reports explores the combined approach of performing endodontic therapy on the second molar and extracting the third molar in a single appointment. This method aligns with the growing trend in modern dentistry that prioritizes efficiency through single-visit procedures. By addressing both dental issues at once, patients experience more immediate pain relief and avoid

the inconvenience of multiple visits. Additionally, this approach reduces the need for repeated anesthesia administration and lowers the risk of prolonged discomfort associated with staged treatments. Since both the extraction site and the treated second molar heal simultaneously, the overall recovery process is more streamlined. Proper case selection and careful execution are essential to ensure optimal patient outcomes and minimize complications [7–10].

INCLUSION CRITERIA

The study included only those patients who had decayed lower second molars and impacted lower third molars. Additionally, only patients who consented to single-visit treatment were considered. Patients without periapical or periodontal issues were also included, as well as those with no significant medical history. Also, the participants were limited to ages 25 to 35. Out of the six patients, four were men and two were women.

CASE REPORTS

Case 1

A 28-year-old male patient reported to OPD with the chief complaint of pain in lower left back tooth region. Upon examination, 37 had tooth decay and showed tenderness when tapped. Radiographic examination revealed partially impacted (distoangular) 38 (Figure 1(a) & (b)).

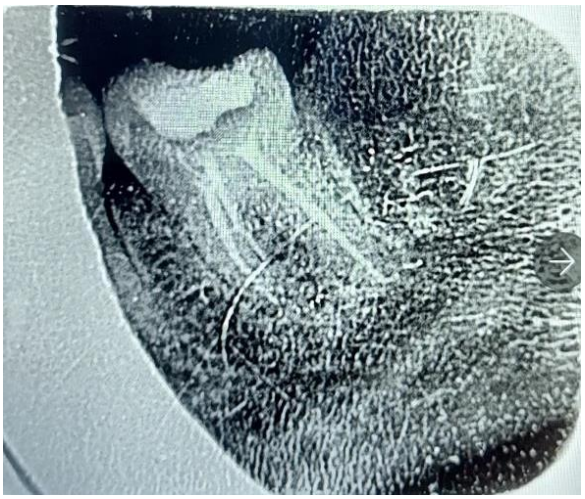

Figure 1(a). Pre-op radiograph.

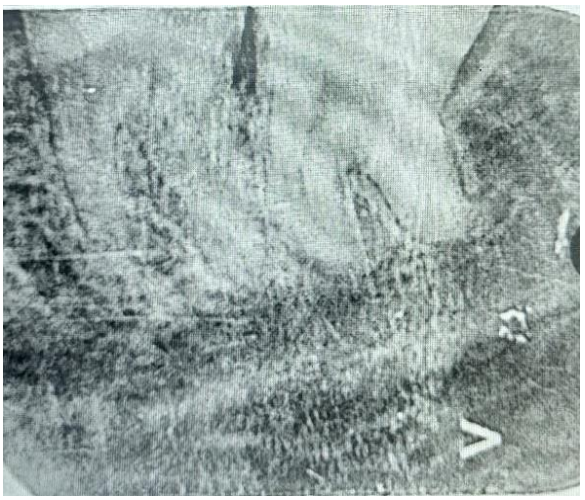

Figure 1(b). Post-op radiograph.

Figure 2(a). Pre-op radiograph.

Figure 2(b). Post-op radiograph.

Case 2

32-year-old female patient reported to OPD with the chief complaint of pain in lower left back tooth region. Radiographic examination revealed caries involving pulp in 37 and caries approximating pulp in 38 with partially impacted (vertical) 38 (Figure 2(a–b)).

Case 3

35-year-old male patient reported to OPD with the chief complaint of pain in lower left back tooth region. On radiographic examination, IOPA revealed distoproximal caries involving pulp in 37 and partially impacted (distoangular) 38 (Figure 3(a–b)).

Figure 3(a). Pre-op radiograph.

Figure 3(b). Post-op radiograph.

Case 4

A 26-year-old woman visited the OPD complaining of pain in her lower right back tooth. On examination, patient was positive for tenderness on percussion in 47. Radiographic examination revealed caries approximating pulp with widening of PDL space in 47 and mesioangular impaction of 48 (Figure 4(a) & (b)).

Figure 4(a). Pre-op radiograph.

Figure 4(b). Post-op radiograph.

Case 5

A 30-year-old male patient reported to OPD with the chief complaint of pain in lower right back tooth region. Radiographic examination revealed distoproximal caries involving pulp in 47 and mesioangular impaction in 48 (Figure 5(a) & (b)).

Figure 5(a). Pre-op radiograph.

Figure 5(b). Post-op radiograph.

Case 6

A 32-year-old male patient reported to OPD with the chief complaint of pain in lower right back tooth region. Radiographic examination revealed distoproximal caries involving pulp in 47 and Horizontal impaction of 48 (Figure 6(a) & (b)).

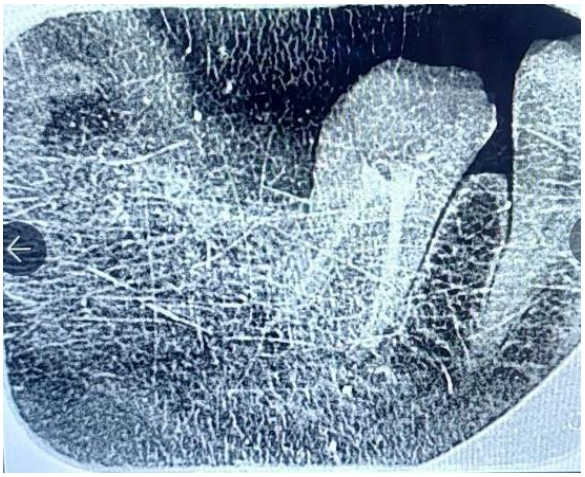

Figure 6(a). Pre-op radiograph.

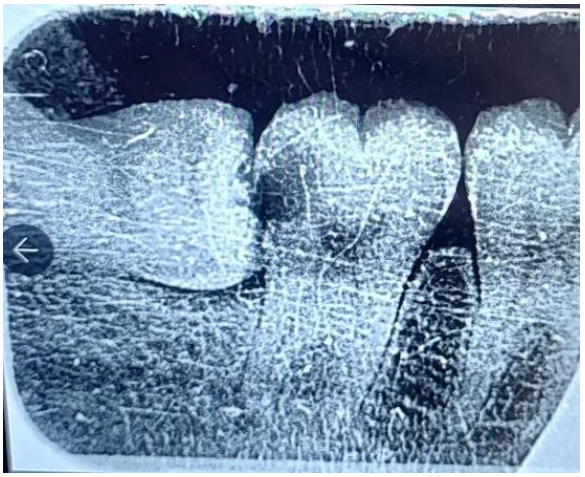

Figure 6(b). Post-op radiograph.

Treatment Done

The above cases are organized by quadrants instead of treatment dates to facilitate sorting. All cases commenced only after verifying the absence of significant medical history. Following diagnosis, each case adhered to a uniform treatment protocol, and the treatments administered are collectively summarized as follows.

Endodontic treatment for the second molar was conducted on a single visit for all patients, followed by the extraction of the third molar. Among the patients, three opted to have crown preparation completed during the same appointment, while the remaining three declined this option. The treatment time ranged from 1.5 to 2.5 hours. All patients were given anesthesia using an inferior alveolar nerve block (IANB) along with a long buccal nerve block. Only one patient needed an extra dose of anesthesia

during the extraction. Each patient was allowed 4 to 5 short breaks, lasting 2 to 5 minutes, throughout the procedure. No patients developed trismus from keeping their mouths open for a long time. All patients demonstrated recovery within one week, with satisfactory wound healing noted. Sutures were removed after one week. Patients who did not have crown preparation completed it during their subsequent visit, while those who underwent crown preparation had their crowns cemented on the day of suture removal.

Follow-Up

Follow-up calls were conducted for three and six months for all patients, and none reported experiencing any complications or discomfort.

WORKFLOW

- Deposition of LA.
- RCT of 2nd Molar.
- Crown prep of 2nd Molar.
- Impression.
- Bite registration (if required).
- Extraction of third molar.
- Suturing the Extraction site.
- Healing time of 1 week.
- Suture removal followed by crown cementation or crown preparation.

DISCUSSION

The discomfort experienced by patients in such cases is attributed to both the second and third molars. Dentists usually prefer to treat one tooth at a time before moving on to the next. However, this case study shows that both root canal treatment and extraction can be done in a single visit. This approach reduces the number of appointments, limits anesthesia use, and lowers the need for postoperative medications since both sites heal at the same time. Emphasizing proper aftercare is essential for patients undergoing this treatment. That said, this study is based on only six cases, highlighting the need for further research. Still, it can serve as a useful reference for those interested in single-visit dentistry [11, 12].

CONCLUSIONS

Performing both root canal therapy (RCT) and the extraction of the lower second and third molars in a single appointment offers a valuable opportunity to streamline dental treatment for patients. This approach eliminates the need for multiple visits, making the process more convenient and time efficient. Additionally, by addressing both issues at once, patients experience reduced overall discomfort, fewer anesthesia administrations, and a more synchronized healing process. However, careful planning and precise execution are essential to ensure the success of this combined procedure. Proper assessment of the patient's oral health, adequate pain management, and thorough postoperative care are crucial in minimizing complications. When carried out with caution, this method can enhance patient experience while maintaining effective treatment outcomes.

Conflicts of Interest

Authors declare no conflict of interest.

REFERENCES

1. Friedman JW. The prophylactic extraction of third molars: a public health hazard. Am J Public Health. 2007 Sep;97(9):1554–9. doi:10.2105/AJPH.2006.100271.
2. Duarte-Rodrigues L, Miranda EP, Souza TO, De Paiva HN, et al. Third molar removal and its impact on quality of life: systematic review and meta-analysis. Qual Life Res. 2018 Oct;27(10):2477–89. doi:10.1007/s11136-018-1899-7.

3. Hounsome J, Pilkington G, Mahon J, et al. Prophylactic removal of impacted mandibular third molars: a systematic review and economic evaluation. Health Technol Assess. 2020;24(30):1–116. doi:10.3310/hta24300.
4. Coulthard P, Bailey E, Esposito M, Furness S, Renton TF, Worthington HV. Surgical techniques for the removal of mandibular wisdom teeth. Cochrane Database Syst Rev. 2014 Jul 29;(7):CD004345. doi:10.1002/14651858.CD004345.pub2.
5. Malkawi Z, Al-Omiri MK, Khraisat A. Risk indicators of postoperative complications following surgical extraction of lower third molars. Med Princ Pract. 2011;20(4):321–5. doi:10.1159/000323768.
6. Candotto V, Oberti L, Gabrione F, Scarano A, Rossi D, Romano M. Complication in third molar extractions. J Biol Regul Homeost Agents. 2019;33:169–72.
7. Aniko-Włodarczyk M, Jaroń A, Preuss O, Grzywacz A, Trybek G. Evaluation of the effect of surgical extraction of an impacted mandibular third molar on the periodontal status of the second molar: A prospective study. J Clin Med. 2021;10(12):2655. doi:10.3390/jcm10122655.
8. Kaplan H, Milobsky L, Kaplan L. Endodontics and periradicular surgery a one-sitting procedure. NY J Dent. 1960;30:253–8.
9. Ferranti P. Treatment of the root canal of an infected tooth in one appointment: a report of 340 cases. Dent Digest. 1959;65:490–4.
10. Figini L, Lodi G, Gorni F, Gagliani M. Single versus multiple visits for endodontic treatment of permanent teeth: a Cochrane systematic review. J Endod. 2008;34(9):1041–7. doi:10.1016/j.joen.2008.06.009.
11. Oliet S. Single-visit endodontics: a clinical study. J Endod. 1983 Apr;9(4):147–52. doi:10.1016/S0099-2399(83)80123-3.
12. Ashkenaz PJ. One-visit endodontics. Dent Clin North Am. 1984 Oct;28(4):853–63.

