

Conservative surgical management of a large residual cyst of the mandibular body: A case report

Alba Likaj^{1,2}, Remi Likaj^{1,2}

¹ Department of Oral and Maxillofacial Surgery,
Regional Hospital of Durrës, Durrës, Albania
² Private Dental Clinic "Real", Durrës, Albania

ORCID  of the author(s)

AL: <https://orcid.org/0009-0003-8954-6033>
RL: <https://orcid.org/0009-0000-4208-7317>

Abstract

Residual cysts are inflammatory odontogenic cysts that remain in the jaw after extraction of a tooth associated with a radicular cyst. A 60-year-old man was evaluated in the Department of Oral and Maxillofacial Surgery for a large, well-defined, unilocular cyst of the mandibular body. The lesion was completely enucleated, and the residual cavity was managed by open packing with iodoform gauze to permit secondary healing. This case demonstrates successful management of a large residual cyst of the mandibular body using complete enucleation followed by open iodoform gauze packing.

Keywords: residual cyst, iodoform gauze, enucleation

Introduction

Cysts are among the most common pathologic lesions of the oral cavity. They are broadly classified as odontogenic or nonodontogenic and as inflammatory or noninflammatory, and they may involve either hard or soft tissues. A residual cyst is an inflammatory odontogenic cyst that persists in the jaw after extraction of a nonvital tooth associated with a radicular cyst. Radiographically, it usually appears as a well-defined, round or oval radiolucency with a thin corticated border [1].

The diagnosis is established by biopsy and histopathologic examination. The differential diagnosis includes odontogenic keratocyst, primordial cyst, unicystic ameloblastoma, inflamed lateral periodontal cyst, and glandular odontogenic cyst [1].

A residual cyst may resemble a primordial cyst; however, a primordial cyst develops in place of a tooth, whereas a residual cyst remains after extraction of a nonvital tooth associated with a radicular cyst [2].

A detailed dental history is therefore important. In the present case, the patient reported a previously infected tooth in the left mandibular region, with several episodes of swelling before extraction at a dental clinic. On the basis of this history and the clinical and radiographic findings, a residual cyst was suspected before histopathologic confirmation.

Corresponding Author

Alba Likaj
Department of Oral and Maxillofacial Surgery,
Regional Hospital of Durrës, Durrës, Albania
E-mail: alba.likaj@yahoo.com

Ethics Committee Approval

The study was approved by the Ethics and
Disciplinary Committee of the Albanian Dental
Order (Merita Bardhoshi, date: July 5, 2025
decision no: 00355674150102).

Informed Consent

Written informed consent was obtained from the
patient for publication of this case report and the
accompanying images.

Conflict of Interest

No conflict of interest was declared by the
authors.

Financial Disclosure

The authors declared that this study has received
no financial support.

Published
2026 July 14

Copyright © The Author(s)



This is an open-access article distributed under the terms of the
Creative Commons Attribution-NonCommercial-NoDerivatives
4.0 International (CC BY-NC-ND 4.0).
<https://creativecommons.org/licenses/by-nc-nd/4.0/>



Figure 1. Preoperative panoramic radiograph showing the residual cyst. The dimensions of the lesion: 5 cm in width, 2.2 cm in length.



Figure 2. Intraoperative view during complete enucleation of the residual cyst.



Figure 3. Clinical appearance on the first postoperative day with iodoform gauze in the bone cavity.



Figure 4. Clinical appearance on the seventh postoperative day during scheduled replacement of the iodoform gauze.



Figure 5. Clinical appearance of soft-tissue healing after removal of the iodoform gauze.



Figure 6. Panoramic radiograph showing bone healing within the residual cavity at 3 months.



Case presentation

A 60-year-old man presented to the Regional Hospital of Durrës with a cyst in an edentulous mandibular ridge extending from the canine region to the mandibular angle. The large lesion was identified on a routine panoramic radiograph and appeared well defined and unilocular (Figure 1).

The patient had no jaw swelling, clinical signs of infection, or neurosensory disturbance. A conservative surgical approach was selected: complete enucleation of the cyst followed by open packing with iodoform gauze to allow secondary healing. Under general anesthesia, a mucoperiosteal flap was elevated and the buccal cortical plate was removed. The cyst was completely enucleated (Figure 2). Iodoform gauze was then placed in the residual cavity to facilitate drainage of blood and serous fluid and reduce the risk of infection (Figure 3).

The patient was followed regularly, and the iodoform gauze was changed twice weekly (Figure 4) until complete secondary healing of the soft tissues was achieved. Secondary healing required approximately 6 weeks (Figure 5). At subsequent visits, the amount of gauze was gradually reduced to avoid overpacking, which can impede healing by secondary intention. Packing was discontinued when the cavity could no longer accommodate the gauze, allowing mucosal closure.

The patient was instructed to rinse with 0.2% chlorhexidine for 7 days, maintain oral hygiene, and follow a soft diet for at least 1 month. At the 3-month follow-up visit, a panoramic radiograph demonstrated new bone formation within the cavity (Figure 6).

Further follow-up at 6-12 months was not possible because the patient had left the country. The final histopathologic examination confirmed a residual cyst in this edentulous mandibular ridge.

Discussion

Residual jaw cysts are often asymptomatic and may be detected incidentally on routine panoramic radiographs. They occur most frequently in older patients and are commonly located between the canine region and the mandibular angle [3].

Pain and swelling may indicate secondary infection. With progressive enlargement, these lesions can erode the buccal and lingual cortical plates and produce visible jaw swelling. Tsvetanov [1] noted that surgical treatment may be required even in asymptomatic patients, as in the present case.

Surgical options for residual cysts include complete enucleation, marsupialization, and decompression [4]. In this patient, complete enucleation was followed by open packing with iodoform gauze for secondary healing. This approach was selected to achieve complete lesion removal while maintaining drainage and supporting patient comfort during healing.

Complete removal of the cystic lining is important because fragmentation of the lining or wall may leave epithelial remnants within the cavity and permit recurrence. Periodic clinical and radiographic follow-up is therefore essential for detecting recurrence or malignant transformation. Recurrence after complete removal is generally uncommon, and the prognosis is favorable [4, 5].

Histologically, a residual cyst is indistinguishable from a radicular cyst because it represents a radicular cyst that remains in the jaw after extraction of the associated tooth [1].

Enucleation of a large cyst leaves a substantial bone cavity and dead space. In this setting, an unorganized blood clot may become infected [4, 6]. Some authors have advocated autogenous bone grafting to fill large defects and reduce the risk of pathologic fracture [7]. However, grafting may be complicated by material exposure, infection, donor-site morbidity, and increased treatment cost [6, 8]. In the present case, no graft material was used, and spontaneous osseous healing was evident at 3 months.

Iodoform has long been used as an antiseptic packing material and is generally well tolerated, although iodine toxicity and hypersensitivity remain potential concerns [9, 10]. Reported adverse effects include neurotoxicity, systemic symptoms, allergic reactions, and dermatologic reactions such as dermatitis herpetiformis [10].

The patient had no known iodine allergy. Commercially prepared, single-dose iodoform gauze was used, allowing the amount and concentration of the material to be standardized; however, standardized packaging does not eliminate the possibility of toxicity.

Open packing with iodoform gauze has been used successfully to support secondary healing of large bone defects [4]. This conservative approach requires a cooperative patient who can attend regular postoperative clinical and radiographic follow-up visits [5].

This case suggests that complete enucleation followed by open packing with iodoform gauze can be a practical option for selected large residual cysts. The technique permitted secondary soft-tissue healing and early radiographic bone formation without graft material. Longer follow-up is necessary to confirm durable healing and exclude recurrence.

References

1. Tsvetanov TS. Residual cysts: A brief literature review. *Int J Med Dent Sci*. 2016;5(2):1341-6. doi: 10.19056/ijmdsjssmes/2016/v5i2/100632.
2. Kahn, Michael A. Basic Oral and Maxillofacial Pathology. Volume 1. 2001.
3. Titinchi F, Morkel J. Residual cyst of the jaws: A clinico-pathologic study of this seemingly inconspicuous lesion. *PLoS One*. 2020;15(12):e0244250. doi: 10.1371/journal.pone.0244250.
4. Kumar V, Sinha RK. Enucleation followed by open packing of iodoform gauze in mandibular unicystic ameloblastoma: A case report. *Open Access Libr J*. 2014;1:e703. doi: 10.4236/oalib.1100703.
5. Singh V, Mohammad S, Singh N, Das S. Conservative treatment of keratocyst: A follow-up study. *Eur J Gen Dent*. 2013;2(2):169-73. doi: 10.4103/2278-9626.112322.
6. Sokler K, Sandev S, Grgurevic J. Surgical treatment of large mandibular cysts. *Acta Stomatol Croat*. 2001;35(2):253-7.
7. Dimitroulis G, Curtin J. Massive residual dental cyst: Case report. *Aust Dent J*. 1998;43(4):234-7. doi: 10.1111/j.1834-7819.1998.tb00165.x.
8. Perjuci F, Ademi-Abdyli R, Abdyli Y, Morina E, Gashi A, Agani Z, et al. Evaluation of spontaneous bone healing after enucleation of a large residual cyst in the maxilla without graft material utilization: Case report. *Acta Stomatol Croat*. 2018;52(1):53-60. doi: 10.15644/asc52/1/8.
9. Singh V, Das S, Sharma NK. Iodoform: A boon in disguise. *Open J Stomatol*. 2012;2(4):322-5. doi: 10.4236/ojst.2012.24055.
10. Halalmeh DR, Ansari YZ, Jader A, Salama HEZ, Venero CV Jr, Moisi MD. Iodoform in surgical practice: A comprehensive review of its historical evolution, clinical applications, and safety profiles. *Cureus*. 2024;16(12):e75752. doi: 10.7759/cureus.75752.

Disclaimer/Publisher's Note: The statements, opinions, and data presented in publications in the Journal of Surgery and Medicine (JOSAM) are exclusively those of the individual author(s) and contributor(s) and do not necessarily reflect the views of JOSAM, the publisher, or the editor(s). JOSAM, the publisher, and the editor(s) disclaim any liability for any harm to individuals or damage to property that may arise from implementing any ideas, methods,

instructions, or products referenced within the content. Authors are responsible for all content in their article(s), including the accuracy of facts, statements, and citations. Authors are responsible for obtaining permission from the previous publisher or copyright holder if re-using any part of a paper (e.g., figures) published elsewhere. The publisher, editors, and their respective employees are not responsible or liable for the use of any potentially inaccurate or misleading data, opinions, or information contained within the articles on the journal's website.