

Intriguing Encounter: Retrieval of a Crescent-Shaped Metallic Foreign Body From the Maxillofacial Region

Received 06/11/2024
Review began 06/12/2024
Review ended 06/25/2024
Published 06/25/2024

© Copyright 2024

Sonpal et al. This is an open access article distributed under the terms of the Creative Commons Attribution License CC-BY 4.0., which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Parmarth M. Sonpal ¹, Dr Bhushan Mundada ¹, Nitin Bhola ¹, Rajanikanth K ¹, Deepankar Shukla ¹, Sanjana N. Wadewale ¹, Riya Goyal ¹

1. Oral and Maxillofacial Surgery, Sharad Pawar Dental College and Hospital, Wardha, IND

Corresponding author: Parmarth M. Sonpal, palmsonpal@gmail.com

Abstract

This case report presents the clinical details and management of a 40-year-old male welder who presented with a foreign body lodged in his left malar region for eight months following a work-related injury. The patient experienced persistent pain, intermittent swelling, and occasional discharge, prompting medical evaluation. Radiographic imaging confirmed the presence of a metallic object, and surgical exploration under local anesthesia led to successful removal. Postoperatively, the patient experienced complete resolution of symptoms, highlighting the importance of prompt intervention in cases of foreign body impaction to prevent complications and improve patient outcomes.

Categories: Dentistry, Plastic Surgery, Radiology

Keywords: patient, local anaesthesia, injury, malar region, foreign body

Introduction

Foreign bodies embedded in soft tissues represent a common challenge in clinical practice, often necessitating prompt diagnosis and intervention to prevent complications [1]. Occupational hazards, particularly in professions involving exposure to metallic debris, increase the risk of foreign body impaction, as evidenced in this case of a welder sustaining a foreign body in the left malar region [2]. Welders are frequently exposed to various metal particles during their work, predisposing them to traumatic injuries [3]. This report aims to elucidate the clinical presentation, diagnostic workup, and management of such cases, emphasizing the importance of tailored approaches to ensure optimal outcomes. By presenting this case, we underscore the significance of maintaining a high index of suspicion for foreign bodies in occupational settings and highlight the efficacy of surgical exploration under local anesthesia as a safe and effective intervention. This case report contributes to the existing literature on soft tissue foreign bodies, providing insights into their management and reinforcing the need for vigilance in occupational safety practices.

Case Presentation

The patient, a 40-year-old male welder, presented to the outpatient department of our institute with a chief complaint of persistent pain, intermittent swelling, and occasional discharge from his left malar region, which had been ongoing for eight months (Figure 1).

How to cite this article

Sonpal P M, Mundada D, Bhola N, et al. (June 25, 2024) Intriguing Encounter: Retrieval of a Crescent-Shaped Metallic Foreign Body From the Maxillofacial Region. Cureus 16(6): e63098. DOI 10.7759/cureus.63098



FIGURE 1: Left malar region showing minimal soft tissue swelling and a hazy scar

He reported sustaining a traumatic injury while at work, during which a foreign body had penetrated the soft tissues of his left cheek. Physical examination revealed a palpable mass in the affected area, accompanied by tenderness on palpation. There were no signs of systemic infection or significant soft tissue damage. Radiographic imaging, including cone beam computed tomography (CBCT) scans, confirmed the presence of a metallic object lodged in the soft tissues of the left malar region, prompting surgical intervention (Figure 2).

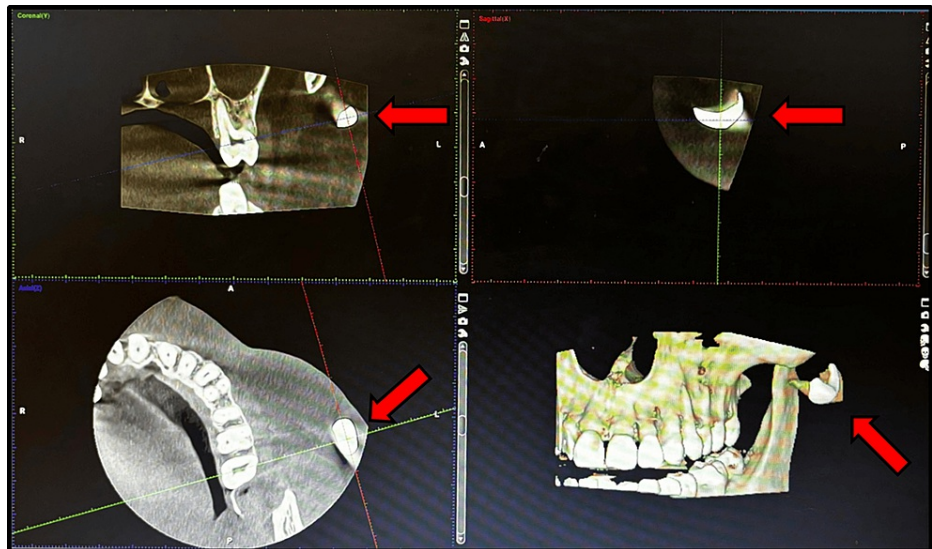


FIGURE 2: Cone beam computed tomography (CBCT) showing foreign body over left malar region

CBCT image in different sections

Under all aseptic precautions, local infiltration was given. After achieving all signs and symptoms of local anesthesia, a stab incision was given through the scar over the left malar region. Exploration was done using artery forceps (Video 1), and the metallic foreign body was removed (Figure 3).



VIDEO 1: Exploration and foreign body removal from the malar region

View video here: <https://youtu.be/n2nR6GGdf0k>

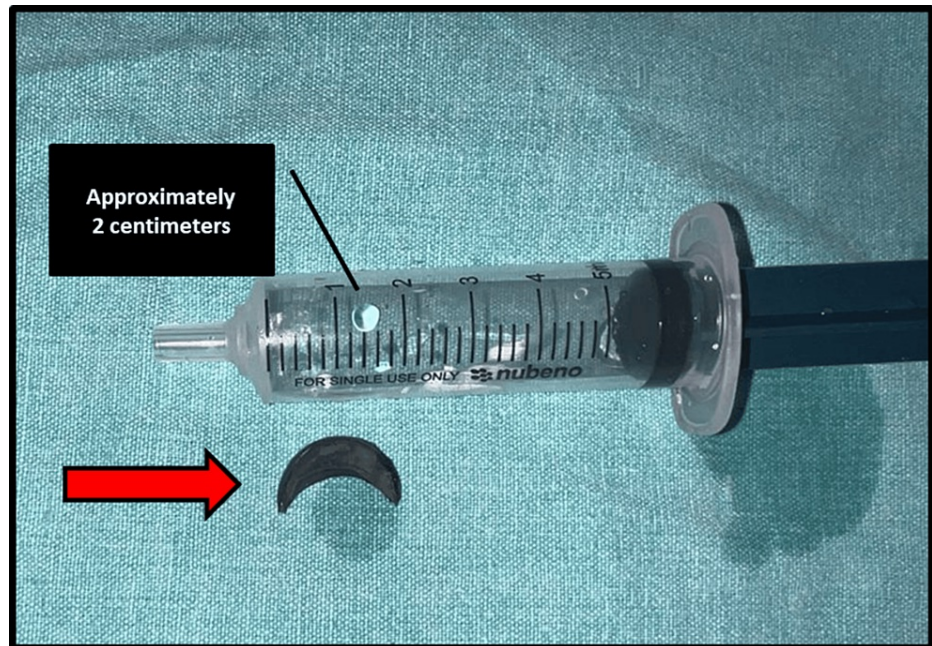


FIGURE 3: Extracted crescent-shaped metallic foreign body

Hemostasis was achieved, and sub-cuticular sutures were given using 3-0 Vicryl and 4-0 Ethilon (Figure 4).



FIGURE 4: Aesthetic closure of given stab incision using 3-0 Vicryl and 4-0 Ethilon

Postoperatively, antibiotics and analgesics were given for five days.

Discussion

Foreign bodies in the facial region, particularly in individuals with occupational exposure to metal debris, such as welders, present unique diagnostic and management challenges [4]. In this case, the patient's occupation as a welder placed him at increased risk of sustaining such injuries due to the nature of his work environment. The prolonged duration between the initial injury and presentation to our clinic underscores the importance of heightened awareness among clinicians regarding the potential for foreign body impaction in high-risk populations [5].

Radiographic imaging played a crucial role in confirming the presence and localization of the foreign body, guiding subsequent surgical planning. Surgical exploration under local anesthesia was chosen as the preferred approach, given the superficial location of the foreign body and the absence of significant surrounding tissue involvement [6]. This approach minimized the risk of complications associated with general anesthesia and facilitated a prompt resolution of the patient's symptoms.

The successful removal of the metallic foreign body resulted in immediate relief of the patient's pain and swelling, highlighting the efficacy of surgical intervention in such cases. Postoperative follow-up examinations confirmed the absence of infection or recurrence, with the patient experiencing a complete resolution of symptoms. Furthermore, patient education regarding occupational safety measures aimed at preventing similar incidents in the future was emphasized during the postoperative period.

This case underscores the importance of a multidisciplinary approach to the management of soft tissue foreign bodies, involving close collaboration between clinicians, radiologists, and surgeons. Early recognition and intervention are paramount in preventing complications such as infection, tissue necrosis, and migration of the foreign body. By presenting this case, we aim to contribute to the existing body of literature on the management of soft tissue foreign bodies, particularly in occupational settings, and emphasize the significance of tailored interventions to optimize patient outcomes.

Review of similar cases in literature

A review of the literature reveals several cases similar to ours, highlighting various aspects of diagnosis, management strategies, and outcomes associated with facial soft tissue foreign bodies. Notable cases include the following:

- Melo et al. (2017) - Presented a case where radiographic imaging guided the precise localization and surgical removal of a metallic foreign body in the facial region, similar to our approach [7].
- Khandelwal et al. (2018) - Reported a case of a welder with a superficial foreign body in the maxillary soft tissues, emphasizing occupational hazards and diagnostic challenges [4].
- Alrasheed et al. (2021) - Discussed the efficacy of local anesthesia for surgical exploration and removal of superficial facial foreign bodies, supporting our decision-making process [8].

These cases collectively reinforce the significance of prompt recognition, appropriate imaging modalities, and tailored surgical interventions in managing facial soft tissue foreign bodies, particularly in occupational settings. They underscore the diverse presentations and challenges encountered, thereby enriching our understanding and guiding clinical practice.

Conclusions

This case report highlights the clinical presentation, diagnostic workup, and successful management of a 40-year-old male welder who presented with a foreign body lodged in his left malar region following a work-related injury. The prompt identification and surgical removal of the metallic foreign body under local anesthesia resulted in immediate symptom relief and a favorable outcome for the patient. Through this case, we underscore the importance of maintaining a high index of suspicion for foreign bodies in occupational settings, particularly among individuals with exposure to metal debris. Early intervention is crucial to prevent complications and ensure optimal patient outcomes. Additionally, patient education on occupational safety measures is essential in preventing similar incidents in the future. Integrating our case with similar reported cases contributes to the cumulative knowledge base, emphasizing the importance of a systematic approach and multidisciplinary collaboration in optimizing outcomes for patients with similar clinical presentations.

Additional Information

Author Contributions

All authors have reviewed the final version to be published and agreed to be accountable for all aspects of the work.

Concept and design: Parmarth M. Sonpal, Dr Bhushan Mundada, Nitin Bhola, Deepankar Shukla, Rajanikanth K, Riya Goyal, Sanjana N. Wadewale

Acquisition, analysis, or interpretation of data: Parmarth M. Sonpal, Dr Bhushan Mundada, Nitin Bhola, Deepankar Shukla, Rajanikanth K, Riya Goyal, Sanjana N. Wadewale

Drafting of the manuscript: Parmarth M. Sonpal, Dr Bhushan Mundada, Nitin Bhola, Deepankar Shukla, Rajanikanth K, Riya Goyal, Sanjana N. Wadewale

Critical review of the manuscript for important intellectual content: Parmarth M. Sonpal, Dr Bhushan Mundada, Nitin Bhola, Deepankar Shukla, Rajanikanth K, Riya Goyal, Sanjana N. Wadewale

Supervision: Parmarth M. Sonpal, Dr Bhushan Mundada, Nitin Bhola, Deepankar Shukla, Rajanikanth K, Riya Goyal

Disclosures

Human subjects: Consent was obtained or waived by all participants in this study. INSTITUTIONAL ETHICS COMMITTEE DATTA MEGHE INSTITUTE OF HIGHER EDUCATION & RESEARCH issued approval -. Approved. **Conflicts of interest:** In compliance with the ICMJE uniform disclosure form, all authors declare the following: **Payment/services info:** All authors have declared that no financial support was received from any organization for the submitted work. **Financial relationships:** All authors have declared that they have no financial relationships at present or within the previous three years with any organizations that might have an interest in the submitted work. **Other relationships:** All authors have declared that there are no other relationships or activities that could appear to have influenced the submitted work.

References

1. Rooks VJ, Shiels WE 3rd, Murakami JW: Soft tissue foreign bodies: a training manual for sonographic diagnosis and guided removal. *J Clin Ultrasound*. 2020, 48:330-6. [10.1002/jcu.22856](https://doi.org/10.1002/jcu.22856)
2. Wanjari MB, Wankhede P: Occupational hazards associated with welding work that influence health status of welders. *Int J Curr Res Rev*. 2020, 12:51-5. [10.31782/IJCRR.2020.122303](https://doi.org/10.31782/IJCRR.2020.122303)
3. Kumar SG, Dharanipriya A: Prevalence and pattern of occupational injuries at workplace among welders in coastal south India. *Indian J Occup Environ Med*. 2014, 18:135-9. [10.4103/0019-5278.146911](https://doi.org/10.4103/0019-5278.146911)
4. Khandelwal P, Dhupar V, Akkara F, Hajira N: Impacted foreign bodies in the maxillofacial region-a series of three cases. *J Cutan Aesthet Surg*. 2018, 11:237-40. [10.4103/JCAS.JCAS_114_17](https://doi.org/10.4103/JCAS.JCAS_114_17)
5. Libânio D, Garrido M, Jácome F, Dinis-Ribeiro M, Pedroto I, Marcos-Pinto R: Foreign body ingestion and food impaction in adults: better to scope than to wait. *United European Gastroenterol J*. 2018, 6:974-980. [10.1177/2050640618765804](https://doi.org/10.1177/2050640618765804)
6. Campbell EA, Wilbert CD: Foreign body imaging. StatPearls [Internet]. StatPearls Publishing, Treasure Island, FL; 2023.
7. Melo MN, Pantoja LN, de Vasconcellos SJ, Sarmiento VA, Queiroz CS: Traumatic foreign body into the face: case report and literature review. *Case Rep Dent*. 2017, 2017:3487386. [10.1155/2017/3487386](https://doi.org/10.1155/2017/3487386)
8. Alrasheed MA, Alhaddad MS, Almuhainy NA, Almohammedali AA: An unusual maxillary sinus foreign body: a case report. *Am J Case Rep*. 2021, 22:e928534. [10.12659/AJCR.928534](https://doi.org/10.12659/AJCR.928534)