

# A Chronic Infection of Tongue Caused by Embedded Tongue Piercing Stud: A Case Report

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## Abstract

Tongue piercing has a long history of being associated with religious and cultural symbolism. In recent years it has grown popular among teenagers and young adults. Several complications may be associated with this practice. Infection of the piercing site is a common complication, which can result in abscess formation or formation of granuloma over the period of time. The management of this complication is always removal of the tongue stud and surgical debridement of the infected site. We present the case report of a patient with chronic infection of the tongue which resulted due to a tongue stud which got embedded submucosally within the tongue.

**Keywords:** Tongue piercing • Debridement • Glossitis

## Introduction

Tongue piercing is a popular form of body art practiced in many countries as manifestations of religious and cultural identities. However several complications may be associated with this practice, with the most frequently observed being halitosis, periodontitis, tooth fracture, glossitis, and the formation of abscesses [1]. Abscess of the tongue is rare condition and is seen in immunocompromised patients or in healthy patients with pierced tongue [2,3]. We present the case report of a patient who had a complication from the remnant of a tongue piercing stud that got embedded under the mucosa of the tongue.

## Case Presentation

A 44-year-old female patient reported to Penang International Dental College in October 2019 with a complaint of pain and swelling in the tongue for the past one week. She stated that the pain and swelling has been intermittently occurring for the past ten years and subsided after taking Antibiotics and Analgesics. She confirmed a history of pus discharge and there were no palpable lymph nodes. She also mentioned that she had her tongue pierced with a tongue stud ten years back. She tried to remove it immediately after the placement and managed to remove just a part of it. She said that a half of the tongue stud was still inside her tongue. On clinical examination, an erythematous swelling measuring about 4 × 3 cm Figure 1 was seen on the dorsum of the tongue. The swelling was firm in consistency and tender on palpation with a draining sinus. A radiograph was made to visualise the tongue radio logically, which revealed possibly a foreign object in the form of a circular radiolucency in the tongue measuring about 0.5 cm in diameter.

Surgical removal of the embedded tongue stud under Local Anesthesia was planned. The tongue was infiltrated with 2% Lignocaine hydrochloride with 1:100000 Epinephrine. A small incision measuring about 4 mm was placed on the swelling on the dorsum of the tongue. Through the incision, a probe was introduced and the infected region was explored. The embedded remnant of

the tongue stud was located and slowly with gentle pressure it was extracted out through the incision (Figures 2 and 3). The surgical wound was irrigated and debrided with antiseptic solution. After achieving haemostasis the surgical wound was primarily sutured. Antibiotics and Analgesics were prescribed



**Figure 1.** An erythematous swelling measuring about 4 × 3 cm was seen on the dorsum of the tongue.



**Figure 2.** Embedded remnant of the tongue stud extracted out through the incision with gentle pressure.

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**Figure 3.** Incision used for the extraction of embedded remnant on the tongue.

postoperatively. The patient was reviewed after a week and healthy healing of the surgical site was observed.

## Discussion

Tongue piercing has become increasingly popular as a form of body art, but it should be noted that potentially serious bacterial infections can result because of this procedure. The tongue piercing stud which is in the shape of a barbell is placed along the midline of the tongue and involves piercing the mucosa dorsal and ventral to the tongue. The mucosal injury sustained during the piercing can lead to invasion of the oral bacteria and possible bacteremia. Poor infection control practiced during the piercing procedure can also lead to infection [2]. In this case one of the contributing factors was the patient's attempt to remove the stud leading to trauma and the persistent presence of a foreign body within the substance of a traumatised tongue. In patients who have sustained penetrating injury, the nature of the foreign body determines the clinical behavior. Steel and glass, considered as inert objects may not cause significant inflammation. Organic foreign bodies such as wood piece and fish bones should be mandatorily removed because they offer a good medium for microbial agents leading to secondary infection associated with abscess and fistula formation [3]. Cases have been reported where a fishbone embedded within the tongue presented as an enlarged mass that was mistaken as neoplasm [4]. Foreign objects inside the tissue can induce granulomatous inflammatory response resulting in a foreign body granuloma [5]. In this case, though considered as an inert object, the tongue stud generated an inflammatory response which can be attributed to the trauma caused by the constant manipulation of the stud by the patient while attempting to remove it. The trauma accompanied with bacterial invasion resulted in a chronic infection, with episodes of acute exacerbations and remissions [6-10].

## Conclusion

Based upon the history and clinical presentation this lesion is highly suggestive of foreign body granuloma. But biopsy was not done. Histopathologically, if granulation tissue was present along with proliferating fibroblasts, endothelial cells, a mixed inflammatory infiltrate consisting of lymphocytes, plasma cells, histiocytes, polymorphonuclear leucocytes and few giant cells, correlating with the clinical history, this lesion can be diagnosed as foreign body granuloma. Patients should be informed about the potential complications associated with tongue piercing. It is the duty of the dental practitioner to educate the patients about the potential side effects and possible oral, dental and systemic complications. It should also be noted that individuals who wish to get a part of their body pierced should confirm that it is performed by qualified professionals. Periodic dental check-up is advised to ensure early detection of adverse side effects associated with this practice.

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