

Research article

Ranula In A Hiv Patient: A Rare Case Report

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Article info: Received: 9-10-2023; Revised: 9-26-2023; Accepted: 10-7-2023; Publish: 12-30-2023

Abstract : Ranula is a form of cyst resulting from obstruction of mayor salivary gland which is a phenomenon of duct retention in the sublingual gland located at the floor of mouth, resulting in swelling under the tongue and bluish in color. Ranula may occur in association with HIV. The study reported 38 cases of ranula, 88.5% of patients were HIV positive. This article reports the management of ranula cases in HIV patients. A 20 year old male patient came with complaints of a lump under his tongue. The lump has been felt since 1 month ago, often recurrence. The patient has a history of Human Immunodeficiency Virus (HIV) and regularly takes Tenovofir Lamivudine Dolutegravir. Extraoral examination showed a lump in the left submandibula region and painless. Intraoral examination found the sublingual region, translucent, mobile, and painless. Supporting examinations include panoramic radiography, thorax radiography, MRI, laboratory. Treatment is carried out by marsupialization with general anesthesia. In this case the ranula classified as a simple ranula because it was only found on the floor of the mouth, the left submandibular extraoral lump was suspected to be a swollen lymph node due to the patient's systemic condition HIV. Excision of the ranula along with the sublingual gland risks injury to the lingual nerve and submandibular duct due to more invasive dissection. Firstline therapy for oral ranula is marsupialization, although the recurrence rate is higher. Surgeons must take universal precautions when performing surgical interventions, and there is no reason to discriminate against ranula patients with HIV. Persistent chronic inflammation caused by HIV can lead to blockage of the small ducts, followed by distension that can lead to rupture of the ducts and extravasation of mucus into the surrounding tissue. The treatment in this case was marsupialization with general anesthesia.

Keyword : Ranula, HIV, Marsupialization, Salivary gland, Cyst

INTRODUCTION

Oral cavity affliction is a common early sign of HIV infection. Salivary gland infiltrations are one of the most frequent oral presentations in HIV-positive individual, and the parotid gland is the most commonly affected salivary gland. Salivary gland infiltrations can manifest as both neoplastic and non-neoplastic diseases. Kaposi sarcoma and salivary gland lymphomas are examples of neoplastic diseases. Benign lymphoepithelial lesions, diffuse infiltrative lymphocytosis syndrome, and parotid lymphadenopathy are examples of non-neoplastic diseases.

Dentists should master the art of taking histories as this may aid in establishing accurate diagnoses, and when there is a clinical suspicion, extra precautions should be taken. Although the pathogenesis of ranula with HIV is still unclear, there have been studies regarding the association of ranula and HIV. An example of an oral disease involving the salivary glands is ranula.

A ranula is a mucus extravasation cyst involving a sublingual gland and is a type of mucocoele found on the floor of the mouth. Ranula presents as a swelling of connective tissue consisting of collected mucin from a ruptured salivary gland caused by local trauma. If small and asymptomatic further treatment may not be needed, otherwise minor oral surgery may be indicated. Ranulas are classified into two types: simple (intraoral) and plunging (cervical). The simple ranula is restricted to the mouth's floor. Because of its distinctive appearance and location, oral ranula is usually diagnosed clinically. The plunging ranula is located in the infra mylohyoid compartment of the neck and may be confused with other causes of cervical swelling, especially if no oral component is present, as seen in our case initially. Plunging ranulas often occur in children and adults between the ages of 8-21.5 years. In a study of 129 pediatric patients aged 3-16 years who experienced ranula plunging, 82 patients (63.57%) were male and 47 patients (36.43%) were female.

A study reported that the prevalence of ranula is in the range of 0.2% of 1000 patients. Apart from that, the male : female ratio is 1 : 1.4 with an age range of 3-61 years. There is a low prevalence of ranula associated with HIV infection. Ranula has been linked to 5.1% of HIV-positive patients in Zimbabwe. Another study reported that 88.5% of HIV-positive patients in a group of 38 ranulas cases were HIV-positive. A high prevalence of HIV-associated ranula has also been reported: 73.7% from 57 cases of ranula, and 63.7% from 113 referred cases of oral mucocoele. Regardless of sample size, the results showed a high prevalence of ranula associated with HIV positivity, even though the majority of the studies were from a single center.

Although the pathogenesis of ranula with HIV is still unclear, there have

been studies regarding the association of ranula and HIV. Clinicians should be aware that the age distribution of HIV-positive patients nearly mirrors that of ranula patients (the second and third decades of life) and the presence of oral white lesions strongly suggests that the patient might have an immunocompromised state.

This case report also shows the importance of taking a thorough clinical history of the patient and always applying universal precautions, especially during surgical interventions.

CASE REPORT

A 20 year old male patient came with complaints of a lump under his tongue. The lump has been felt since 1 month ago, often recurrence. The patient has a history of Human Immunodeficiency Virus (HIV) and regularly takes Tenovofir Lamivudine Dolutegravir. Extraoral examination showed a lump in the left submandibula region and painless. Intraoral examination found the sublingual region, translucent, mobile, and painless. Supporting examinations include panoramic radiography, thorax radiography, MRI, laboratory. Based on the history and clinical features a diagnosis simple ranula was made.

The treatment plan decided for this case was marsupialization under general anesthesia. Before the procedure, the patient, operator and assistant are prepared with universal precautions. The patient is positioned supine under general anesthesia. Prophylactic antibiotics were given with 2 grams of cefazolin. Asepsis was carried out at the surgical area both extraorally and intraorally using povidone iodine and gauze. Injection of local anesthetic with pehacain in the area where the incision will be made. Then an elliptical incision is made on the mucosa of the floor of the mouth. Tissue is taken to be sent and a pathological examination is carried out. The edges of the incision are sutured to the margin of the mucosa with a continuous interlocking technique to keep the lesion open. Then gauze is inserted into the lesion. Patients were instructed to maintain gauze for up to 3 days postoperatively.



Figure 1. A. The patient showed left submental swelling. B. Mouth floor swelled



Figure 2. A. Durante op marsupialization of Ranula B. The rupture cyst of Ranula



Figure 3. A. Addition of packing the entire cavity with gauze after its unroofing B. Control after 3 days

DISCUSSION

Ranula is a retention cyst, which is one of the oral manifestations associated with HIV infection. These glands form due to extravasation of mucus from the sublingual glands, possibly caused by continuous saliva production due to duct obstruction. Usually mucocoeles or ranulas occur after trauma. However, there is no history of trauma in the current case or other studies that could explain the development of ranula. Persistent chronic inflammation caused by HIV can lead to blockage of the small ducts, followed by distension that can lead to rupture of the ducts and extravasation of mucus into the surrounding tissue.

Ranulas are classified into two types: simple (intraoral) and plunging (cervical). Superficial (simple) ranula are confined to the floor of the mouth. Because of their characteristic appearance and location, oral ranula are usually diagnosed clinically. Temporary Plunging Ranula is located in the infra mylohyoid part of the neck and may be confused with other causes of cervical swelling, especially if there is no oral component. In this case the ranula was classified as a simple ranula because it was only found on the floor of the mouth, the extra oral

sublingual lump was suspected to be swollen lymph nodes due to the patient's samasystemic condition, namely HIV.

Oral manifestations related to HIV and Antiretroviral Drugs on Salivary Glands, With the introduction of ART, there has been a decreased frequency in oral manifestations of HIV by an estimated 10–50% While the mechanism remains unclear, it is hypothesized that protease inhibitor may cause an alteration in the structure and composition of saliva, leading to a decreased salivary flow. Olive et al. further suggested that protease inhibitor can lead to abnormal fat accumulation and parotid lipomatosis, thus causing enlarged salivary glands and reduced salivary flow. Still, establishing a link between genes regulating lipid metabolism and HIV-1 protease gene remains difficult. Furthermore, a Mexican study has suggested that ART, regardless of CD4+ counts, served as a probable risk factor for decreased salivary flow and hyposalivation based on the number of years of therapy.

There are several methods for treating ranulas, but surgery is the most common. Various treatments for ranulas have been suggested. These include sclerotherapy with OK-432, marsupialization, incision and drainage, aspiration of cystic fluid, ranula excision only, and excision of the sublingual gland with or without ranula excision. Excision of the ranula is not necessary because it is not a true cyst, and attempting to excise the ranula along with the sublingual gland would likely place the lingual nerve and submandibular duct at greater risk due to a more invasive dissection. An alternative first-line treatment for oral ranula is marsupialization, although recurrence rates are higher.

Surgeons should take universal precautions when performing surgical interventions, and there is no reason to discriminate against HIV patients with ranula. There should be equivalent perioperative management and follow-up for patients with and without HIV who present with ranula lesions.

CONCLUSION

Persistent chronic inflammation caused by HIV can lead to blockage of the small ducts, followed by distension that can lead to rupture of the ducts and extravasation of mucus into the surrounding tissue. The treatment in this case was marsupialization with general anesthesia. Surgeons should take universal precautions when performing surgical interventions, and there is no reason to discriminate against HIV patients with ranula. There should be equivalent perioperative management and follow-up for patients with and without HIV who present with ranula lesions.

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