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Substantial Submandibular Sialadenitis

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Abstract

Infection or inflammatory condition of the salivary gland is known as sialadenitis. Submandibular gland sialadenitis may occur in association with sialolithiasis or a tumor in the gland or may be associated with either as a direct bacterial infection[1]. Cases of intermittent swelling of the salivary glands are idiopathic and are described as "chronic nonspecific sialadenitis" and may be associated with duct calculi[2].In this article we discuss a case of 68 year old female patient who was diagnosed with a submandibular salivary gland sialadenitis and the way treatment was executed.

Keywords: Siladenitis, Sialolithiasis, Inflammation, Sialagogue

Introduction

Salivary gland disorders has its effect on major or minor salivary glands, but the most affected one being the parotid and the submandibular salivary gland. Clinically, the gland will be enlarged and painful to touch or in some cases it exhibit pain on swallowing. Most patients will present with a history of recurrent episodes. If the process has persisted for more than 1 year, the gland will be palpably firm, presumably related to fibrosis[1]. The incidence of acute suppurative parotitis has been reported at 0.01–0.02% of all the hospital admissions[3].The exact incidence of submandibular inflammation and infection is not yet clarified. No race, age and sex predilection per se exists. Sialadenitis as a whole tends to occur in the older, debilitated or dehydrated patient[3].This condition usually does not have any direct or indirect relation with the patient's medication or day to day life style, also the past or present medical condition may or may not have any influence over the worsening of the disease.

Case Report

A 68 year old female patient was reported to the department of Oral and maxillofacial surgery of Sri Hasanamba Dental College, Hassan, with a complaint of swelling over the right submandibular region since last 6 months which is approximately 6x 5 cm in size (Fig 1 & Fig 2), patient noted an increase in the size of the swelling from last 2 months associated with fever .No history of dryness or any traumatic ulcers intraorally or difficulty on swallowing noted. Patients is a known hypertensive and is under medication since last one year with no deleterious habits and a mixed pattern of diet .General physical examination reveals the patient to be moderately built moderately nourished and well oriented to time place and person. Extraorally the swelling noted was diffuse which is hard to firm in consistency, non fluctuant, sessile with no sinus tract openings and change in the skin texture. Swelling doesn't move on deglutition with palpable and tender submandibular cervical lymph node over the right side. Intraorally the mouth opening was 45mm with moderately maintained oral hygiene with decayed 15 and 46.Patient was advised with various blood investigations and CT from the clavicle to base of the skull. Blood reports reveals Hb=11.09 gram %, Neutrophils = 65%, Lymphocytes = 30%, Erythrocytes =3% and Monocytes =2%. HIV, HbsAG and RTPCR were reported negative. CT revealed a well marinated, lobulated soft tissue measuring 35x35x27 mm in size with no intra lesion calcifications (Fig 3).The patient was posted for surgery under a physician's consent.

Surgical excision of the lesion was carried out carefully with no harm to the adjacent structures. The submandibular incision was placed (Fig 4) after the local infiltration using 2% lignocaine with 1:80,000 adrenaline. The gland was approached inferiorly so that the dissection can proceed through the subcutaneous layer then plasma and the superficial layers of deep cervical fascia, the facial vein and artery was ligated carefully. Excision was carried out(Fig 5) and the specimen was put in 10% formalin(Fig 6).Mini Vac drain was placed over the right neck region, the wound was sutured back (Fig 7)and the patient was admitted in the hospital for next 3 days with intravenous antibiotic and analgesics. The specimen was sent for histopathological examination.

The specimen was examined microscopically and the report reveals a lesion of 6x5x3cm which includes 1.5cm of the submandibular salivary gland .Microscopically it shows a circumscribed lymphoid tissue with many large germinal centres. High endothelial capillaries are seen, mixed salivary gland with chronic inflammatory cells in between the acini diagnosing it as a submandibular Sialadenitis (Fig 8).

Patient was discharged after 3 postoperative hospital days patient was started with oral antibiotics and analgesics .Drain was removed on the fifth day and the suture were removed on the 14th day.Patient was educated about the postoperative care and was called for follow up after 1 month, on the 3rd month and the 6th month postoperatively(Fig 9 & Fig 10).No post-operative complications or paresthesia was recorded.

Discussion

Clinically, acute submandibular sialadenitis differs from parotitis mainly in the site of the swelling and discharge of pus from wharton's duct. A wide variety of bacteria has been incriminated, but Staphylococcus aureus has been the most frequently reported isolate[3]. Streptococci, Escherichia coli, Pseudomonas aeruginosa, and Moraxella catarrhalis are some of the other causes of the sialadenitis. Most cases of submandibular gland sialadenitis undergo periodic acute exacerbations from a

baseline of chronic disease. During the acute episodes, fever, leukocytosis, and pain are more prominent[1]. Depending upon the severity of the gland affected the patient shows a variety of changes in leucocytosis which is mainly towards the left i.e towards the immature type of cells.

In case of sialadenitis a proper care should be taken to evaluate whether it is caused due to sialolithiasis, or due to any gland obstruction or due to any odontogenic infection as the treatment will be different in each scenario. Administration of antibiotics are very important due to the inflammation, sometimes the sialadenitis will be clinically seen as an abscess and then drainage will be the first line of treatment in such cases before any other surgical treatment. Acute symptoms resolve within a week in most of the cases, however edema in the area may last for several weeks.

Prognosis

About 50% of submandibular gland disorders recover with antibiotics, sialagogue therapy, and proper hydration. Cases are treated in a surgical as well as with medication. Cases treated surgically with resection gives less chance of recurrence compared to non-surgical cases. About 10% of submandibular sialadenitis cases are related to a tumor, most of which are determined to be malignant[1]. In such cases, further therapy is required. If the reported case is benign, gland removal should be sufficient. If the condition is malignant, additional surgery of suprahyoid or functional neck dissection followed by radiotherapy is indicated depending on the extensiveness of the lesion.

Conclusion

Patient with sialadenitis should be well educated for proper oral hygiene habits and the importance of hydration. Routine dental check-up should be advised in this condition which will reduce the severity of further attacks. Underlying mechanism in the pathology should be well explained to the patient and also the measures to control them. Other than antibiotics, supportive treatment will be given with salivary massage, hydration and sialagogues like lemon juice or vitamin C lozenges.

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Legend Figure

Figure 1: Worms view

Figure 2: Lateral Profile View

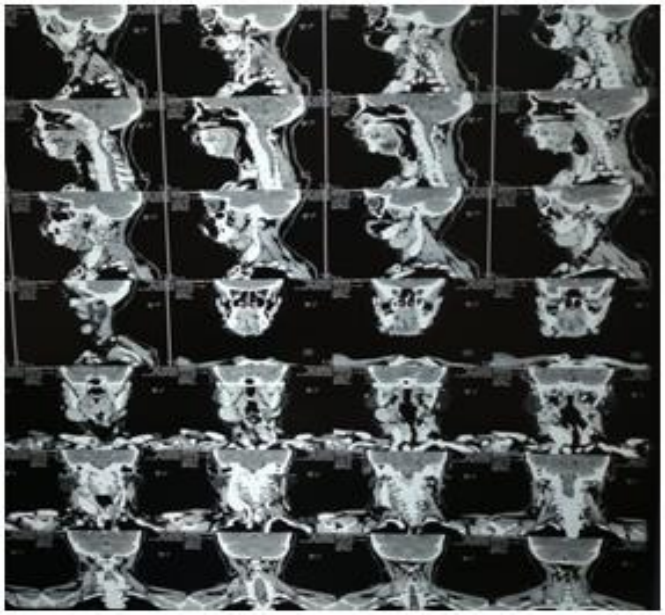

Figure 3: CT sagittal and coronal views

Figure 4: Preoperative marking done

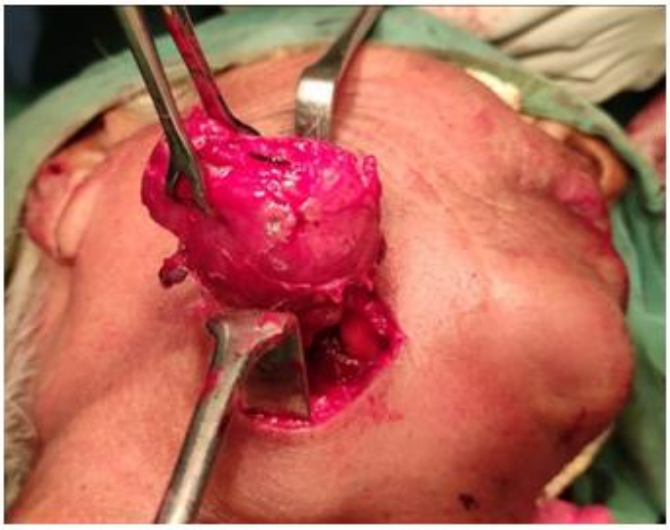

Figure 5: Excision of the lesion

Figure 6: Measurement of the excised lesion

Figure 7: Closure of wound

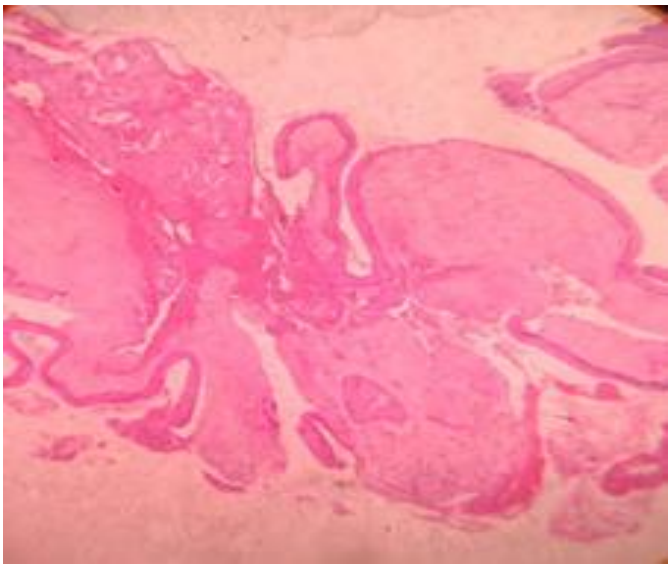

Figure 8: Microscopic view of the lesion

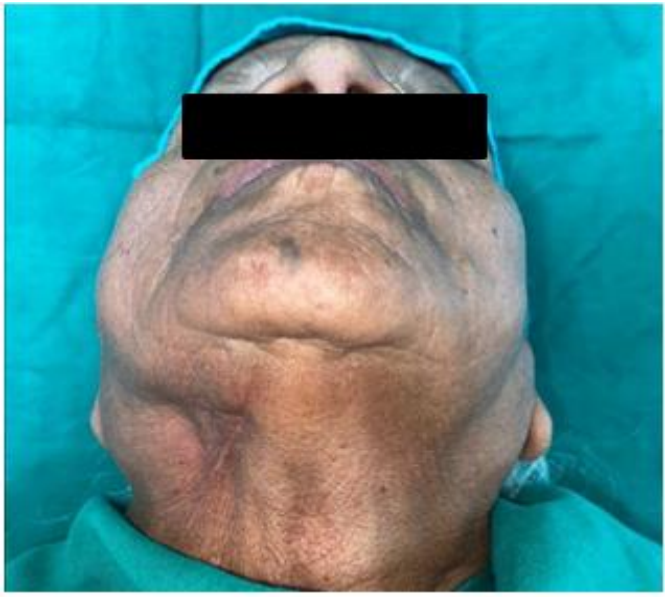

Figure 9:Post-operative view-worms view

Figure 10: Post-operative lateral view