INTRODUCTION

A sialocele (also called salivary mucocele or salivary retention cyst) is an accumulation of saliva surrounded by tissue reaction to the saliva. The result is a fluid-filled sac which can occur under the tongue (a ranula), in the neck or buccal regions, or adjacent to the pharynx. It is a pseudocyst, without a distinct epithelial lining. It usually becomes apparent 8-14 days after an injury but maybe delayed. Facial lacerations or an operative procedure such as a mandibular osteotomy are frequent initiating factors. Other causes for these accumulations of saliva are obstruction (usually caused by inflammation, sialolithiasis) and foreign bodies. It can become infected and form an abscess. Extra-oral fistula formation is a possibility, as it is the secondary infection. Diagnosis of sialocele is based on history and clinical assessment of the patient. Often history of surgical wound or trauma will be present before development of swelling, as was present in this case. Management of sialocele has been controversial. Both surgical and nonsurgical treatment modalities are reported in the literature.

The objective of this case report is to give a detailed description of post traumatic sialocele developing after fire arm injury in a young male patient, along with literature review.
tory oral hygiene and was fully dentate. Lower left first premolar and central incisor were mobile with a disturbed occlusion and hematoma in the floor of the mouth. Gingival laceration was also found in the region of comminuted fracture. Mouth opening was limited. Extra-oral examination revealed an entry wound on left side of mandible in angle region and exit wound on right side of the neck. The lower border of the mandible was tender on palpation. Marginal mandibular branch of facial nerve was intact on examination. Base line investigations including hepatitis B and hepatitis C were negative. Blood sugar and urea were within the normal range. After consultation with patient physician and assessment for fitness of general anaesthesia patient was scheduled for seqeustrectomy and maxillomandibular fixation for 8 weeks.

After one month, patient presented with a soft, fluctuant and mobile swelling in the sub mental region plunging in the midline. Patient complained of a vague pain along the right side of mandible and respiratory problem but he did not mention any increase in size of swelling during oral intake nor decrease in swelling during decrease salivary flow rates. The overlying skin was intact with no change of temperature or other signs of inflammation. On physical examination patient was generally well and afebrile. On palpation the swelling was soft and mobile. On bimanual palpation the swelling was lobulated with smooth margins. The patient denied any discharge from the swelling. No extra-oral or intraoral fistula was detected. Swelling measured about 9 cm in length and 7 cm in width. No skin discoloration, erythema and sensory or motor deficits were found. Right submandibular node was palpable. On intraoral examination there was a mild bulging of the mucosa of the floor of the mouth on the right side, suggesting the increased size of the right sub lingual gland. On aspiration thick straw coloured viscous secretions were found, about 70 cc of fluid was aspirated in the first visit to decompress the swelling and relieve respiratory problem. (Fig. 1)

The patient was sent for ultrasound of the neck as a part of the workup for progressive facial swelling. The ultrasound report stated cystic lesion lying superficially in submandibular and submental region with internal septa and contents having echoes. Thyroid gland appeared normal on ultrasound. On basis of history, clinical examination and ultrasound report a provisional diagnosis was made that it was a post traumatic sublingual sialocele.

The patient was treated under general anaesthesia. A small stab incision was made in the sub mental region after blunt dissection thick viscous fluid of about 250 cc was drained. The swelling decreased in size. A mucosal incision on the right side of the floor of mouth was made and right sublingual gland was removed in toto. (Fig 2). Right Whartons duct was identified and redirected posteriorly in the mouth. Repair was done with 3/0 silk. A 3 cm corrugated rubber drain was placed in the extra-oral incision and pressure dressing applied. On follow up visit the patient was asymptomatic with no complaint of swelling and pain. (Fig 3)

Fig. 1: Decompression with syringe note the thick mucous secretion

Fig. 2: Right Sublingual specimen after removal
DISCUSSION

Sialocele, or salivary pseudocyst, is a rare complication. The sialocele is a subcutaneous cavity containing saliva, usually resulting from trauma to the gland parenchyma, laceration of duct or ductal stenosis with subsequent dilation. Extravasation of saliva into the surrounding tissues occurs following injury thus creating the sialocele. Sialocele is an acquired lesion and an intermediate length complication early being the gland effusion. Unless secondarily infected there is absence of pain and it is soft and mobile on palpation. Infection is an important complication in sialocele and leads to external salivary fistula.

Diagnosis of sialocele is made by history and clinical assessment of patient. An aspirated fluid medium is analyzed for salivary amylase (exceeding 10,000 U/L in case of parotid sialocele). In this case, sialochemistry revealed salivary amylase of 281 U/L which further confirmed the swelling to be of sublingual origin. As salivary amylase tend to be increased in serous secretions, sublingual gland being predominantly mucous the salivary amylase was decreased. Radiological examinations (CT, MRI) have very small role in detecting injuries to area of parotid gland. CT scan will reveal a single or multiloculated cyst-like mass with less density than the surrounding tissues with smooth margins. Ultrasonography is a useful examination to use for diseases of the salivary glands and for confirming the cystic nature and precise location of a sialocele. Ultrasound scanning commonly demonstrates a complex fluid collection sometimes with septation and debris. Sialography may be performed, however some authors have claimed that sialography may increase the pressure in sialocele causing rupture and fistula. In the present case sialography was avoided because of the above mentioned reason and also the previous fire arm injury (FAI) and surgery has distorted the normal anatomy and posed a difficulty in performing sialography. The development of new diagnostic tools such as magnetic resonance sialography and endoscopic techniques (sialoendoscopy) has led to further improvements in the clinical and diagnostic assessment of this condition.

Numerous methods described in the literature for sialocele treatment. Some authors postulated that minor sialoceles resolve spontaneously by the end of one month because scar tissue formation around transected margins of the salivary parenchyma seals any further flow of saliva from the remaining salivary parenchyma. Various non-surgical or conservative approaches are repeated aspiration and pressure dressing, radiation therapy at 6-20 Gy but it is no longer popular because radiation doses required for healing are high and may be carcinogenic, administering nothing orally to the patient until fistula closes, antisylogogues like atropine or propanthine can be used but their side effects restrict their use. Botulinum toxin therapy has recently been described as a highly effective, safe, and non invasive method of treatment in the management of parotid sialoceles. Lapid et al. reported the application of transdermal scopolamine resulted in resolution of a post-rhytidectomy sialocele within 6 days.

Surgical procedures for parotid sialocele can be divided into two groups: First, methods which depresses secretion of the parotid gland are duct ligation and section of auriculotemporal or Jacobson’s nerve and second are the methods which diverges the secretion into the mouth including gland removal, excision and cauterezation of fistula, drainage of proximal duct by catheter thus forming a controlled internal fistula or reconstruction of duct by mucosal flap, suture of proximal duct to buccal mucosa, reconstruction of duct with vein graft.
As sublingual sialocele is rarely reported in the literature, in the present case sialocele was associated with difficulty in respiration and was of cosmetic concerns, we opted for gland removal and decompression by pressure dressing.

**CONCLUSION**

Post traumatic sialocele should be considered in the differential diagnosis of submental and submandibular swelling after excluding infection and other causes of such swellings.

**REFERENCES**