

Conservative management of parotid fistula and sialocele

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INTRODUCTION

Sialocele occurs due to injury to the parotid gland parenchyma or duct, this result in accumulation of saliva in periglandular and glandular tissues or in subcutaneous cavity.¹ When accumulated saliva communicates with the skin and drains it is termed as parotid fistula². It is an acquired lesion due to trauma from sharp penetrating objects, it can also occur as a rare complication following TMJ surgery, open reduction of condylar fracture, parotid abscess drainage, parotidectomy.^{3,4} There is always a history of trauma to facial region or surgery. The diagnosis involves thorough history, clinical examination of the patient, fine needle aspiration. Fine needle aspiration is evaluated for salivary amylase; exceeding 10,000 U/L is confirmatory. Various imaging technique include sialography, ultrasonography, fistulogram, computed tomography.² Fistulography shows the extent of the fistula. Sialography is performed with water soluble contrast. Ultra sound demonstrates as well defined hypoechoic image suggesting a cyst. Computed tomography gives a complete picture of the cystic lesion.^{1,5}

ABSTRACT

Sialocele is a collection of saliva in the subcutaneous tissue or in the glandular tissues. When this communicates with the skin and drains it is known as parotid fistula. The causes are sharp penetrating trauma, infectious drainage, TMJ surgery, parotidectomy, condylar fracture reduction. We report a case of parotid fistula is due to sharp penetrating object and a case of parotid sialocele following open reduction of condylar fracture. There are numerous methods of treatment of parotid fistula and sialocele. Here we followed repeated aspiration, pressure dressing and oral administration of hyoscine. The excellent result was achieved with conservative therapy.

Keywords: Sialocele, Parotid Fistula, Hyoscine

Sialocele can develop into significantly large facial swelling and ultimately leads to fistula formation. Hence early recognition and intervention is required. Numerous treatment options are available both non surgical and surgical approaches. This paper presents 2 cases, one parotid fistula and one sialocele successfully managed with conservative approach.

CASE REPORT 1

A 22 year old male patient with the history of trauma 5days back presented to us with a linear lacerated wound which was sutured. The suture wound was present in the right cheek 3cm in front of tragus and measuring 5cm vertically. There was a minimal swelling, appeared to be haematoma. On examination, facial nerve is intact; suturing was done well, Patient medical history was non-contributory. One week review patient presented with swelling measuring 4×4cms in the cheek region. On inspection skin was stretched and shiny at the sutured margin. Serous discharge was observed at two points on the sutured margin. On palpation swelling was fluctuant, intraorally no salivary flow was observed.

Aspiration done with 18 gauze needle, 10ml straw coloured fluid was obtained. Salivary amylase was 14000U/L. provisionally it was diagnosed as parotid fistula, swelling subsided after complete aspiration, pressure dressing was given. Patient was advised tab Hyoscine 10mg twice a day for 10days along with bland diet. Every alternative day aspiration and pressure dressing was done. After a week favourable response was observed, hence medication was continued for one week post reduction of swelling. Healing was uneventful.

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Fig. 1: Frontal view parotid fistula swelling

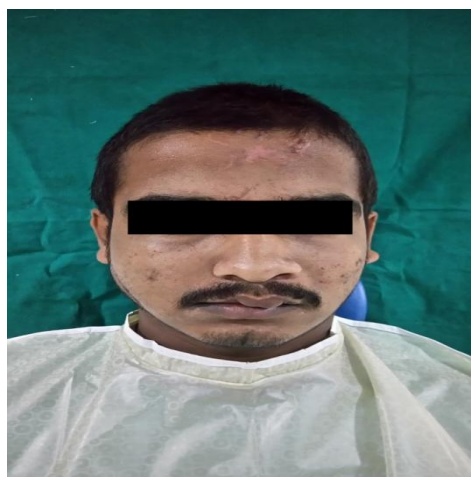


Fig. 2: Two weeks post-operative picture with complete healing

CASE REPORT 2

A 24 years old man reported to us with a history of RTA. He was diagnosed with left subcondylar and right body fracture of mandible. The patient was treated with open reduction and internal fixation for left subcondylar fracture via retromandibular approach and body fracture through intraoral approach under GA. On the 9th post operative day, a diffuse swelling was observed in the left parotid region. The swelling was fluctuant and there was increase in size of the swelling during meal time and a provisional diagnosis of postoperative parotid sialocele was made. Fine needle aspiration of swelling yielded 5ml of fluid. It was clear, straw coloured with watery consistency. The diagnosis of salivary fluid was confirmed by elevated salivary amylase content (18,000 U/L) of aspirated fluid. Patient was instructed to have bland diet, compression dressing was placed. Tab Hyoscine 10mg (buscopan) was administered twice daily for one weeks. Every alternative day aspiration and pressure dressing was placed. After one week significant reduction in swelling was observed. The

medication was continued for another 1 week, by the end of 2nd week swelling completely subsided.



Fig. 3: 2nd week post-operative sialocele



Fig. 4: Collection from the sialocele



Fig. 5: One week post-operative healing

DISCUSSION

Parotid sialocele after maxillofacial surgery is an unpleasant complication. Deep penetrating injury to parotid region can lead to sialocele formation. Injury to parotid glandular structure, ductal system results in parotid effusion. It presents a soft tissue swelling usually recognised as hematoma. Salivary accumulation leads to inflammatory pseudocapsule formation and develops a sialocele or parotid fistula. Acute parotid injuries should be exposed and repaired primarily. If collection of saliva persists then forces the fistulous tract, along the surgical scar. The treatment of parotid fistula is troublesome, because gustatory production of saliva and autolytic property of saliva hinders wound healing. Sialocele typically presents 8 – 14 days after injury. Small sialocele have said to resolve spontaneously by formation of scar tissue which seals salivary flow and accumulation.⁵ Parotid duct injuries classification by van sickle's divides in to 3 regions Site A: posterior to the masseter or intraglandular, Site B: is overlaying the masseter, Site C: is anterior to the masseter.⁵ Treatment depends on the site of injury. Various nonsurgical and surgical options are available in the management of parotid fistula and sialocele. Nonsurgical or conservative approaches include repeated aspiration, compression dressing and bland diet which are simple and well tolerated by the patient. Pressure dressing leads to compression of lobules of gland capillaries, veins which are contained in capsule. This reduces secretions and leads to atrophy of gland. Radiotherapy can be administered at the dose of 6 – 20Gy. It causes fibrosis and atrophy of the gland. The side effect of radiotherapy limits its use.⁴ Injection of Botulinum toxin A 10-20mouse units (u) percutaneously into the gland, also decreases parotid secretion by presynaptic inhibition of acetylcholine release. This requires repeated administration and cost is a factor in consideration.^{4,6} Administration of anticholinergic like Hyoscine, Probanthine hydrochloride provides beneficial results. The adverse effects of anticholinergic drugs listed are xerostomia, constipation, photophobia, tachycardia and urinary retention.¹ This was not observed in our cases. Antisialogogues like atropine and glycopyrrolate can also use to treat sialocele. Sclerotherapy with the STD and warm hypertonic saline and have been used successfully. They cause fibrosis and spontaneous closure of the fistula. The advantage of hypertonic saline is cost effective, non-toxic and no risk of injury to the facial nerve.³ Zwaveling et al reported successful use of fibrin glue to seal the glandular tissue in parotidectomy.^{4,7} Various surgical options available are those that direct parotid secretions in to the mouth and procedures that depress secretions. The other techniques to depress parotid secretion are duct ligation. Intraglandular injuries can be treated by duct ligation which causes “physiologic death” of the gland. Internally there is pooling of saliva and pain because of

stretching of the capsule. Later this subsides and gland goes for atrophy in 1 – 2 weeks. The late complication is possible chance of infection of the remaining glandular substances.² Sectioning of the Auriculotemporal nerve/ Jacobson's nerve, the parasympathetic innervations of the gland can cease the secretion. It is useful in glandular injuries. The varied anatomy can be result in failure.^{2,7}

The fistulous tract can be surgically excised and tight pressure dressing is an effective option. The injuries of the parotid duct can be suspected by drawing an imaginary line from tragus to midpoint on the upper lip, the middle third of this line represents the duct. Any laceration crossing this line must be suspected to have injury to the parotid duct. Surgical option is to repair of the duct over a stent to restore internal drainage. In parotid duct repair, the proximal and distal stumps of ducts are identified. Sialocele tube is cannulated through the papilla. Duct is repaired over the stent and the stent is trimmed to the level of papilla and sewn to oral mucosa. The stent is held in place for 2 – 3 weeks to allow duct to heal and prevent stenosis. Techniques of reconstruction duct with mucosal flaps, vein grafts have been reported. Demetriades advocated internalization of the salivary flow.⁷ In the method to create a controlled internal fistula, a polyethylene catheter or catheter drainage tube is inserted into cavity of sialocele from the buccal mucosa. The catheter is maintained for two weeks, this allows continuous drainage into oral cavity and epithelisation of the track.

CONCLUSION

Parotid gland and duct injuries present a small number of cases. Thorough evaluation during closure in soft tissue trauma is important. In retromandibular approach for open reduction and fixation condylar fracture, meticulous closure of parotid capsule is of paramount importance to avoid fistula or sialocele complication. The use of conservative approach of pressure dressing, repeated aspiration and short term administration of hyoscine proved beneficial to the patient. Conservative management should be adopted before attempting surgical procedure.

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