Affections of the Tongue

1. Trauma:-

Trauma of the tongue occurs in all species of animals, and all the affected animals will show the
following sings.

Inability to protrude the tongue for feeding; Salivation; Halitosis.

Treatment

Cleaning of the area after insertion of mouth gag and application of local antiseptics and antibiotics.

2. Lacerations:-

Can occur after street accident or by sharp tooth fragment, if laceration are deep, suture under G.A.
and a tension suture (vertical mattress) and non absorbable suture material are used.

In case of severe laceration partial glossectomy was done.

Amputation in cattle must be avoided because of the loss of prehensile function of the tongue.

Surgical procedure of partial glossectomy

1- The animal is anesthetized and placed in lateral recumbency.

2- A tourniquet (rolled gauze) is applied proximal to the intended transaction site.

3- The tongue is transected dorsal and ventral to the lacerated site (the incision will take V shape).

4- The dorsal and ventral aspects are sutured together with an interrupted horizontal mattress pattern
with no. 1 or 2 non-absorbable sutures.

3. Snake bite:-

The tongue can be bitten by a snake as it protruded to bring grass or hay into the mouth.

Clinical sings

- Gangrene and septicemia.
- Swelling of the intermandibular region.
- Swelling of the tongue and discolored and protruded stiffly from the mouth.

Treatment

- Immediate local and I.M. injection of antivenom and antibiotics (penicillin and streptomycin)
is essential.
- Giving water and feed.
- Incise the tongue to drain away exudates.

4. Paralysis of the tongue (glossoplegia):

Paralysis of the hypoglossal nerve and the tongue showed one side of the mouth. In bilateral paralysis the whole tongue is flaccid and hangs out of the mouth.

Causes

- Infection or neoplasm along the course of the nerve.
- Lead poisoning and botulism.

Treatment

- Tonics.
- Water and nutrients must be administered by stomach tube.

5. Neoplasia:-

Tumor of the tongue are very uncommon, but the one usually seen is the squamous cell carcinoma.

The treatment is excision of the tumor or amputation if it is possible.

6. Self suckling

If nose ring with burr is not successful for preventing self suckling a partial glossectomy is used.

The technique alters the tongue contour to prevent from forming a U shaped tongue for suckling.

(Alter from concave to convex shape)

Surgical procedure:

The operation is performed by sedation with local infiltration of lidocaine or under general anesthesia.

Two techniques could be performed:

A. Ventral partial glossectomy:

A two elliptical incision is made at the ventral mucosa that is approximately 5cm at its widest part and
start rostral to the frenulum attachment on the tongue and extends rostrally 2.5cm caudal to the tip of
the tongue.

The edges closed with horizontal mattress suture pattern.

B. Lateral partial glossectomy:

Removes half of the tip extends 5cm of the tongue removed.

Affection ofSalivary Glands (S.G.)

The major salivary glands are located some distance from the oral cavity and empty their secretions
via long ducts.

They include:

1- Parotid S.G.

2- Mandibular S.G.

3- Sublingual S.G.

- Zygomatic S.G. or Buccal S.G.
- Smaller ones present at soft plate, lips, tongue

In dogs there are 4 main pairs of salivary glands:

Parotid, mandibular, sublingual, and the zygomatic glands, which are the dorsal buccal glands in other
animals.

In horses and ruminants there are 3 main pairs of salivary glands:

Parotid, mandibular, and sublingual glands.

The parotid gland is the largest of these glands and occupies the space between the vertical ramus of
the mandible and the wing of the atlas.
The parotid duct (Stenson's duct) is formed by three or four radicles and leaves the gland ventrally
about 2.5cm above the external maxillary vein.

Affections of the salivary glands

Salivary glands affection divided into 2 types:
1- Congenital
2- Acquired.

Congenital abnormalities of the salivary glands are associated with agenesis or atresia of the parotid
ducts, resulting in a fluid-filled swelling proximal to the obstruction site.

Acquired diseases:

Usually secondary to lacerations or other trauma that ruptures the salivary glands or ducts.

1. Trauma:-

Fresh wound of the gland must be sutured after thorough cleaning and debridement, the leaking wound
has a great tendency toward spontaneous closure.
Close the wound where the fistula has been excised in several layer with cat gut, the skin wound is
closed with interrupted silk suture. The tube facilitates normal drainage of saliva.

2. Salivary Mucocele

- A salivary mucocele (or sialocele) is an accumulation of saliva in the submucosal or subcutaneous tissues after damage to the salivary duct or gland capsule.
- This is the most common salivary gland disorder of dogs.

- Although any of the salivary glands may be affected, the ducts of the sublingual and mandibular glands are involved most commonly.
- Parotid salivary duct obstruction occurs when the saliva can’t flow normally from parotid gland into mouth.
- Saliva often collects in the intermandibular or cranial cervical area (cervical mucocele).
- It can also collect in the sublingual tissues on the floor of the mouth (sublingual mucocele or ranula).
- A less common site is in the pharyngeal wall (pharyngeal mucocele) or lower eyelid (zygomatic mucocele).

Causes of Salivary Mucocele and duct obstruction:

- The cause may be traumatic or inflammatory blockage or rupture of the duct or capsule (with
damage of parenchyma) of the sublingual, mandibular, parotid, or zygomatic salivary gland.
- Salivary gland stones made of calcium and other minerals (most common)
- Scar tissue
- Mucous plugs

- Foreign bodies
- Abnormal growth of cells
- Usually, the exact cause is not determined, but a developmental predisposition in dogs has been suggested.

Symptoms of Salivary Mucocele

- Signs depend on the site of saliva accumulation.
- In the acute phase of saliva accumulation, the inflammatory response results in the area being swollen and painful.
- The first noticed sign may be a nonpainful, slowly enlarging, fluctuant mass, frequently in the cervical region.
- A pharyngeal mucocele can obstruct the airways and result in moderate to severe respiratory distress.
- A zygomatic mucocele may result in exophthalmos or enophthalmos, depending on its size and location.
- A mucocele is detectable as a soft, fluctuant, painless mass that must be differentiated from abscesses, tumors, and other retention cysts of the neck.

Diagnosis of salivary mucocele and duct obstruction

- Salivary mucocele usually can be diagnosed by palpation and aspiration of light brown or blood-tinged, viscous saliva.
- Careful palpation with the animal in dorsal recumbency can determine the affected side
- Imaging tests for diagnosis:
  - Sialography X-rays and computer technology create cross-sectional images.
  - CT. scan this is currently the test of choice.
  - Ultrasound. High-frequency sound waves are used to see tissue and organs inside the body.

Treatment of salivary mucocele and duct obstruction

- Surgery is recommended to remove the damaged salivary gland and duct.
- Periodic drainage if surgery is not an option is usually only a temporary measure and has the potential for iatrogenic infection.
- Gland-duct removal has been recommended for curative treatment of salivary mucoceles.
- Marsupialization

Marsupialization:

The duct proximal to the obstruction can be marsupialized to the oral cavity by the following surgical technique:

- A longitudinal incision is made in the oral cavity at the level of the distended duct.
- Saliva will leak out into the incision.
- The incision is enlarged so the stoma created is 1-1.5cm.

- The oral mucosa is sutured to the duct mucosa with a simple interrupted pattern of absorbable
suture of 2/0 or 3/0 size.
- A size 5 to size 8 French polyethylene catheters should be passed through the newly formed stoma and sutured to the buccal mucosa to prevent unwanted closure.

Ranula in Dogs:-

This is a large, transparent, circumscribed, well-defined salivary cyst that forms in the mouth on either
side of the tongue.
The cause has been related to lesions of the mandibular and sublingual ducts.
Treatment of ranula presents problems because if they are incised they tend to recur.
The cyst has a thin, fragile wall, and usually is located at a relatively inaccessible site on the floor of
the mouth.
Though I.M. injection of corticosteroids has been reported to cause regression of the lesion, this result
is not consistent.
Surgical drainage of ranula by excising an elliptical, full-thickness section of the mucocele wall, suture
the lining wall of the mucocele with the sublingual mucosa to provide drainage for several days.

3. Salivary Fistula

- Salivary fistula is an uncommon problem that can result from trauma to the mandibular, zygomatic, or sublingual salivary glands.
- Wounds of the parotid gland are most likely to develop a fistula.
- Parotid duct injury may be the result of a traumatic wound (eg, bite wound), abscess drainage,
or prior surgery in the area with iatrogenic rupture.
- The constant flow of saliva prevents healing, and a fistula develops.
- A salivary fistula must be differentiated from a draining sinus (due to a penetrating foreign body or endodontic disease of a mandibular tooth) in the neck or from sinuses arising from congenital defects.

Treatment of Salivary Fistula

- Surgical ligation of the salivary duct.
- Excision of the associated gland may also be necessary.
- Destruction of salivary gland.

Destruction of salivary gland

The salivary gland may be injected with a caustic agent to destroy the secreting cells until the fistula
resolves and heals.
Use of 10 to15 ml of Lugol's iodine or up to 35 ml of 10% buffered formalin injected through a

catheter placed into the duct, the duct must be held closed for a few minutes to achieve the diffusion of
the caustic agent throughout the gland.
Post treatment glandular and peri-glandular swelling may require an anti-inflammatory agent such as
acetylsalicylic acid or Flunixin meglumine.

4. Salivary Gland Tumors

- Salivary gland tumors are rare in dogs and cats, although cats are affected twice as frequently
as dogs.
- Most are seen in dogs and cats >10 years old.
- Most salivary gland tumors are malignant, with carcinomas and adenocarcinomas.
- Local infiltration and metastasis to regional lymph nodes and lungs are common, as is local recurrence after surgical excision.
- Radiotherapy, with or without surgery, offers the best prognosis.

5. Sialoliths (Salivary Calculi)

Sialoliths are seen more often in horses than in the other species, Stenson's duct is the usual site.
The stones have different size, some with a diameter of several inches have been reported.
These calculi consist mainly of calcium carbonate and generally requiring a nucleus for the deposition
of calcium salts. This nucleus can be provided by a small foreign body entering the ostium of the duct
or by cellular debris.
Diagnosis is by the swelling of the duct and regional gland, and by palpation of the stone in the duct.

Surgical treatment

- The operation can be done under local analgesia and tranquilizer, but a general anesthetic is usually preferable.
- Make an incision over the swelling along the course of the duct, taking care to avoid accompanying veins and arteries.
- Expose the calculus and remove it.
- Suture the duct with catgut using continuous pattern.
- Close the skin with interrupted silk stitches.