Salivary Gland

Is special tissue of the epithelium originated from the oral ectoderm which
Secret saliva

Saliva is a mixture of serous and mucous fluids to keep the mouth moist
wet and lubricates foods dissolves some elements of food and
initiates digestion of starchy foods.

- The main salivary glands are:
  Parotid, Mandibular, Sublingual, Zygomatic gland (dorsal buccal
gland).
- Besides the main glands smaller one are present in the soft palate,
lips, tongue, cheeks and through the submucosa of the mouth.
- Innervation is sympathetic and parasympathetic.

A. Major Salivary Gland

1. Parotid salivary gland.

In Horse

- **Location:** below the ear and between the ramous of mandible and
  the wing of atlas.
- **Shape:** long quadrilateral about 20 cm × 5 cm × 2cm and 200 -
  225gram weight.
- **Ducts:** have one excretory duct (parotid duct) which is pass at the
  medial surface mandible ramous and at the vascular groove with
  facial artery and vein it is opened at the level of 3rd upper cheek teeth
  by parotid papillae.

In Ox

- **Location:** it lies on the masseter muscle a long the ramous of the
  mandible.
• **Shape:** long narrow triangular.
• **Ducts:** pass at the medial surface of mandible ramous and at the vascular groove with facial artery and vein (like horse) it is opened at the level of 2\textsuperscript{nd} upper molar teeth.

**In Sheep**
• **Location:** it lies on the masseter muscle.
• **Shape:** quadrilateral about 11 grams.
• **Duct:** runs across the lateral surface of masseter muscle and open at 1\textsuperscript{st} upper molar tooth.

**In dog**
• **Location:** at parotid region.
• **Shape:** small irregular triangle, the dorsal border has deep notch surrounded the external ear.
• **Duct:** cross the masseter muscle and at the 3\textsuperscript{rd} upper premolar tooth.

2. **Mandibular salivary gland**

**In Horse**
• **Location:** below the parotid (in atlantic fossa).
• **Shape:** long and carved about 45 - 60 weight.
• **Ducts:** mandibular duct is formed by union of small radicals and pass cranially along the medial surface of the mandibles body and open at the level of canine teeth by flatten papilla called sublingual caruncle.

**In Ox and sheep**
• **Location:** under the carved angle of the mandible.
• **Shape:** carved
• **Ducts:** pass cranially along the medial surface of the mandibles body and open at the level of canine teeth.
In dog

- **Location:** under the parotid (in atlantic fossa).
- **Shape:** round in shape.
- **Duct:** pass on the medial surface of mandible and open at the sublingual caruncle near the frenulum.

3. Sublingual salivary gland

**In Horse**

- **Location:** one gland in each side under mucous membrane of the lateral surface of the tongue.
- **Shape:** it is flattening tap extend from the 1st lower molar to incisive symphysis.
- **Ducts:** it is polystomatic type have about 30 minor sublingual ducts.

**In ruminant**

There are two type of sublingual salivary gland:

I. Poly somatic sublingual salivary gland

- **Location:** under mucous membrane of the lateral surface of the tongue extend from incisive bone to the palatoglossal arch.
- **Shape:** thin layer lobulated yellowish gland.
- **Duct:** open in a row of microscopic orifices on each side of sublingual fold.

II. Monostomatic sublingual gland.

- **Location:** lie ventral to the cranial part of the polystomatic gland.
- **Shape:** short thin gland.
- **Duct:** it has one duct accompanying with the mandibular duct to sublingual caruncle at level of canine.

**In dog**
It has sublingual gland which is divided into 2 parts:

I. Cranial part is polysomatic
   - Location: on the lateral surface of the tongue under its mucous membrane.
   - Shape: thin layer of glandular tissue.
   - Duct: it has about 8-12 orifice open at side of tongue.

II. Caudal part in monosomatic.
   - Location: under the mucous membrane caudal to the polysomatic part.
   - Shape: thin layer of glandular tissue.
   - Duct: one duct accompanying with mandibular gland duct to the sublingual caruncle.

B. Minor Salivary Gland

It is called according to the location [labial, palatine, lingual, buccal gland]

In dog

Buccal gland in dog called Zygomatic Salivary Gland it is well developed and can be recognized by:

- Location: near the zygomatic crest.
- Shape: large long mass.
- Duct: have many orifices.

In Horse divided in to:

1. Dorsal buccal gland located between buccinator muscle and have many orifices.
2. Ventral buccal gland it is large mass located on the body of the mandible near the angle of the mouth.
In Ruminant divided into:

1. Dorsal buccal gland.
2. Ventral buccal gland.
3. Middle buccal gland.
Affections of the Salivary Glands

1. Wounds which is due to any trauma.
   - Fresh wound must be sutured after cleaning and debridement if necessary.
   - Sever infected wound with saliva leakage.
     Treatment
     - Protect the surrounding skin with petroleum to prevent excoriation by saliva.
     - Giving liquid feed and keep the animal out of sight or hearing of the animal when fed to reduce salivation to a minimum to lead for spontaneous healing, if not the fistula must be closed by suturing the duct with absorbable suture and skin with interrupted silk suture.

2. Sialoliths
   - Are the calculi of salivary gland consisting mainly of calcium carbonate which regard as a nucleus for deposition of calcium salts. The nucleus can be provided by a small foreign body entering the duct or by cellular debris resulting of inflammatory process.
   - Are seen more often in horses than other species.
   - Stensons' duct is the usual site.

Clinical signs

- Swelling of the regional gland
- Pain.

Diagnosis

- Palpation of sialoliths within the duct.
- Skull radiography.
Affections of the salivary glands

- Ultrasonography.
- Sialography.

Treatment

1. Under local or general anesthesia.
2. Make an incision over the swelling along the course of the duct. Taking care to avoid arteries and veins injury.
3. Expose the calculus and remove it.
4. Suturing the duct wall with continuous absorbable suture.
5. Suture the fascia if is available to bury the first suture line.
6. Close the skin with interrupted silk stitches.

3. Rupture of the duct
   Rupture of mandibular or sublingual ducts or the subsidiary branches of these ducts results in ranula and cervical mucocoeles. Swelling may be present on the floor of the mouth and extend to the mandibular region.

Treatment

- Cysts have been incised and drained.
- Flushed with an irritant solution, this result in temporary remission and may recurs with infection and adhesion which needs for excision of the cyst and with mandibular or sublingual glands to treat mucocoeles.

4. Ranula
   This is a large transparent circumscribed well defined cyst that forms in the mouth on either side of the tongue, related to lesions of the mandibular and sublingual ducts.

Treatment

○ After general anesthesia.
The mouth held open with speculum and tongue held to one side.

2. The cyst incised and the contents are evacuated.

3. Remaining cavity is lightly packed with a ribbon of gauze.

4. The roof of the cyst is then cut away and the floor is sutured to the adjacent mucous membrane.

5. When this procedure is not curative the mandibular salivary gland and both parts of the sublingual gland should be removed.

Treatment removal of sialolith and subsequent cannulation and copious flushing of the duct to ensure patency.

Closure of the duct is not necessary because the wound heals readily by second intention.
Affections of the salivary glands

Salivary Glands.


Salivary Glands.