



Beni-Suef University
Faculty of Veterinary Medicine
Surgery, Anesthesiology, and Radiology Department

EAR AFFECTIONS

EXTERNAL EAR

I-Surgical Disorders of the Pinna (Ear flap or Auricula): -

A-Wounds: -

Most of recent ear injuries are traumatic as a result of biting, barbed wire or tree and are characterized by profuse hemorrhage, while old wounds are either extension of neglected recent wounds or occur as a result of seton, mild irritation after using rope or chain tie at the base of the horn.

***Symptoms**

The same general symptoms of wound (hemorrhage in recent wounds, and cellulites and infection in old one).

***Prognosis**

When a part of the tip of the pinna has been avulsed, it is difficult to restore the ear appearance. The splitted or punctured ear should be repaired surgically as quickly as possible to achieve the maximal cosmetic appearance of the ear.

***Treatment**

In recent wounds, arresting of bleeding should have the priority. The wound edges are excised and refreshed (including the cartilage if necessary). Divided cartilage is not sutured but the skin over the cartilage on both sides is sutured. The head of the animal should be restrained to prevent the animal from rubbing the ear against fixed objects. The aftercare is the same as general principles used for ordinary wound.

Treatment of the old wounds follows the rules of general surgery (daily dressing with antiseptic and injection of antibiotic).



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B-Ear Fistula (Ear Cyst or Fistula Auris Congenita): -

It is a dentigerous cyst with fistulous opening on the ear's anterior edge.

***Symptoms**

An opening of the fistula is present at the anterior edge of the ear 1-3 cm from its base, through which a gray mucoid or purulent fluid comes out and runs down the temporal and buccal regions and dries. The skin around the opening shows excoriation. The fistulous tract is connected to a tooth-like structure that can be determined by passing a probe or by radiography.

***Treatment**

Treatment is primarily surgical and includes surgical excision of the fistula with separation of the bony tooth-like structure from its attachment to the temporal bone, then the wound is closed in layers.

C-Auricular Cellulitis: -

It is an inflammatory condition of the earflap as a result of pyogenic infection of the ear wound.

***Symptoms**

The earflap is swollen (of 1-2 cm thickness), warm, and painful. The swollen earflap droops to one side and can't be raised. Serous fluid exudates from the ear, dries on both surfaces of the ears and forms crusts.

***Treatment**

The external auditory meatus is backed with cotton, an ear bandage is applied and moistened with warm water every 2 hours. Massive dose of antibiotic should be administered.

The fate of such condition is either resorption or abscess formation over the earflap. When an abscess is formed, it is treated by the general principles of



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surgical treatment without splitting of the cartilage but if necrosis occurred in the cartilage, it is indicated to perform partial amputation of the earflap.

D-Neoplasms of the External Ear: -

The most predominant type of neoplasms observed on the ear is the wart or papilloma, which is a benign tumor, but other types of tumors can involve the deeper auricular tissues.

***Treatment**

Neoplasms of the ear can be treated either by surgical resection, cryotherapy or thermally. Neoplasms on the edge of the earflap or on its inner or outer surface are removed surgically and in some cases it is necessary to remove a part of the cartilage during resection. While neoplasms of deep auricular tissue, that cause obstruction of the external ear canal, should be removed with the canal itself.

E-Deformities of the External Ear and Abnormalities of Ear Cartilage In Horse:

1-Stubby ears:

It is a unilateral or bilateral, congenital or acquired condition characterized by small and short earflap, and there is no treatment for such condition.

2-Floppy ears:

It is a state of ears enlargement with irregular movements of the ears.

***Treatment**

In many cases surgical reduction of the earflap size is sufficient to correct the abnormal ear cartilage. In other cases it is necessary to shorten the adductor muscles of the ear by resecting 1-2 cm of the muscles.

3-Drooping ears:



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It is inability of the ear to move in its normal arc or to remain in upright position as a result of rupture of the muscles responsible for ear movement. The condition is caused by trauma, twisting of the ear, or application of twitches at the base of the ear.

*Treatment

Suturing of the ruptured muscles or shortening if the muscles are stretched.

F-Broken Conchal Cartilage: -

*Treatment

The condition is treated surgically by incising and reflecting the skin over the injured cartilage, then two or three Kirschner wire pins are inserted into the cartilage and fixed externally to the skin by stitch. The cartilage is suture with wire suture by simple interrupted pattern and the skin is closed routinely. The wire pins are removed 16-20 days after surgery.

G-Hematoma of the Ear (Aural Hematoma): -

The condition is a common affection in pet animals. The exact cause of such affection is not well known, but it is accepted that it is a self-inflecting trauma leading to rupture of blood vessels.

*Symptoms

Accumulation of blood between the skin and the cartilage, either on one side or on both sides, and the size and consistency of the hematoma depend up on the duration and severity of trauma.

*Treatment

It is treated either by application of counter irritants or antinflugestic to facilitate resorption if the condition is recent and small-sized or by drainage technique. Sometimes it is better to leave it for 7-10 days to permit closure of the ruptured vessels and clotting of the blood, and then surgical incision is indicated.



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1-Drainage Technique:

It is a method used for recent hematoma on the concave surface of the pinna to facilitate drainage of the hematoma by applying two plastic teat canulas at the proximal and distal aspects of the hematoma via stab incision of the skin. The canulas are fixed by silk, and the hematoma is flushed with sterile saline daily with monitoring the maintenance of the drainage, and they are removed after 7-21 days when the drainage is minimal.

2-Incision-Suture Technique:

A medial S-shape incision is made along the hematoma, the clot is removed, the cavity is flushed with saline, the pinna is sutured with non-absorbable suture material using through and through mattress suture pattern parallel to the incision and the ear vessels in order to close the dead space, the ear is bandaged and prevented from self-traumatization, the bandage is changed frequently and removed after 7 days when the drainage is diminished, and the sutures are removed after 14 days. Disadvantage of this technique is the possibility of thickening and wrinkling of the ear.

3- Incision-Sutureless Technique:

An elliptical incision is made from end to end of the hematoma to expose it, the cavity is flushed, the ear is firmly taped to expose the incision, the pinna is reflected over a large roll of cast padding and taped in place, and a nonstick dressing pad is applied to the incision and changed according to the need for three weeks. Suturing is not used in this technique.

II-Surgical Disorders of the Ear Canal: -

A-Otitis Externa: -

It is an inflammation of the epithelium of the external ear canal characterized by an increased production of ceruminous and sebaceous material, desquamation of epithelium, and pain.

***Etiology:**



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The usual causes of otitis externa are parasitic infestation, bacterial or fungal infection, allergy, trauma, or presence of foreign body.

**Signs:*

Chronic cases can change the size and characters of the external ear canal permanently. The epithelium can be thickened, fibrosed, and ulcerated, and if the epithelium become scarred, the canal undergo stenosis.

**Treatment:*

***Medical:**

The initial treatment is directed toward irrigation and cleaning of the canal with antiseptic and topical antibiotic, antifungal or antiparasitic according to the cause with parenteral injection of antibiotic and using of ceruminolytic agents.

Chronic case is better treated by topical Swimmer solution (three parts 70% isopropyl alcohol and one part vinegar) that has cleaning and drying action and changes the pH.

***Surgical:**

1-Lateral Vertical Ear Canal Resection:

It is performed in order to provide ventilation, and remove moisture, humidity, and temperature.

2-Vertical Canal Ablation:

It is indicated when the horizontal ear canal is obliterated with proliferative tissue and the animal didn't response to resection of the vertical ear canal.

3-Total Ear Canal Ablation:

It is used for removal of the entire vertical and horizontal ear canal, and is indicated for treatment of severe ear trauma, neoplasia of the horizontal canal, or persistent otitis externa following the two previously mentioned techniques.



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MIDDLE EAR

I-Otitis Media: -

It is an inflammation of the mucous membrane of the tympanic cavity as a result of extension of infection from the pharynx through the eustacian tube or from otitis externa after perforation of the tympanic membrane. In the horse it is also caused by infection of the upper respiratory tract and the guttural pouch

*Signs

The head is held to one side, disturbance of the movement, equilibrium, and general condition of the animal. Foul-smell pus comes out from the external ear and soils the hair below it.

*Treatment

The condition is usually incurable in the horse, and treatment attempts include irrigation with antiseptic and application of antibiotic.