

Contagious ecthyma.....

Orf, Contagious pustular dermatitis

Orf is a viral disease caused by Para poxvirus (family Poxviridae) ,affecting sheep and goats and causes unthriftiness, varying degrees of pain, and some economic loss.

Epidemiology....

1-It occurs most commonly in lambs 3-6 months of age, although lambs 10-12 days of age and adult animals can be severely affected, and outbreaks involving the lips and face of young lambs and the udders of the ewes . Loss from lamb mortality and secondary mastitis in these circumstances can be significant.

2-The disease also occurs in humans working among infected sheep. Typical lesions occur at the site of infection, such as hands, arm or face

3-morbidity rates 100% and case fatality rates from 5 to 15% ,The deaths that occur are due to the extension of lesions in the respiratory tract.

4-Scabs that fall from healing lesions contain virus and remain highly infective for long periods, Spread in a flock is very rapid and occurs by contact with other affected animals or by contact with contaminated objects, such as feed troughs, ear-tagging.

Pathogenesis ...

After virus entrance ,viremia lasting for short period followed by localization in the skin and the typical orf lesions will developed which characterized by, macule,papule, vesicle, pustule, & scab formation,

Clinical findings...

1-Lesions develop initially as papules and then pustules ,then progress to granulation and inflammation covered with a thick, tenacious scab

2-The first lesions develop at the oral mucocutaneous junction, usually at the oral commissures and are accompanied by swelling of the lips.

3- lesions may spread to the muzzle and nostrils, the surrounding hairless skin and, to a lesser extent, on to the buccal mucosa. They may appear as discrete, thick scabs 0.5 cm in diameter, fissuring occurs and the scabs are ulcerate and painful to touch.and the affected animals were restricted to grazing or sucking milk

4-in benign cases the scabs will dry and fall off, and recovery is complete in about 3 weeks.

5- Affected lambs sucking ewes may cause spread of the disease to the udder where a similar lesion progression is seen, which will predispose to mastitis .

6- lesions on the scrotum may be accompanied by fluid accumulation in the scrotal sac and associated with temporary infertility.

7- Lesions may also occur in the mouth involving the tongue, gums, dental pad or a combination of those sites.similar lesions may found on ears ,coronate ,anus ,vulva & prepuce

8-in rare cases sever systemic reaction may occur accompanied by sever gastroenteritis and diarrhea, followed by bronchopneumonia .

9- A malignant form of the disease has also been observed in sheep. It begins with an acute episode manifested by oral vesicles, and extension of these lesions down to the gastrointestinal tract, followed later by granulomatous lesions and shedding of hooves.

Clinical pathology....

1- detection of the virus using PCR,Elisa and electron microscope

Differential diagnosis ,,,

The disease must differentiated from

- FMD
- Sheep pox
- Blue tongue
- Papillomatosis

Treatment... There is no specific treatment and we can use astringents with mild antiseptics .

PAPILLOMATOSIS (WARTS)

It's a benign tumor induced by host-specific papilloma viruses. It infects epithelial cells either of external or internal body tissues causing hyperproliferative lesions that are benign, self-limiting and, in most cases, spontaneously regress.

Etiology ...

It is caused by papilloma virus, BPV - 1, BPV-2 and BPV-5, which cause fibropapillomas whereas BPV - 3, BPV-4 and BPV-6, cause true epithelial cells papillomas.

Epidemiology...

- 1- Papillomatosis has an international occurrence in all animal species. Specially cattle and horses, sheep and goats are rarely affected.
- 2- The method of spread is by direct contact with infected animals, infection enters through cutaneous abrasions, of ear tags, dehorning, shearing injuries.
- 3- The disease affects all ages and young animals are more susceptible than adults.
- 4- The disease is of an economical importance.

Pathogenesis ...

- 1- The virus infects the basal keratinocytes, replicating at the granular layers causing the excessive growth that is characteristic of wart formation.
- 2- The tumor contains epithelial and connective tissues and can be a papilloma or a fibropapilloma, depending on the relative proportions of epithelial and connective tissue present; papillomas contain little connective tissue, and fibropapillomas are mostly fibrous tissue.

Clinical findings ...

- 1- Warts are solid outgrowths of epidermis and may be sessile or pedunculated.
- 2- In cattle:
 - a- Warts occur on any part of the body on the head, especially around the eyes, and on the neck and shoulders, but may spread to other parts of the body, such as vulva, prepuce. They vary in size from 1 cm upwards and their dry, horny, cauliflower-like appearance القرنايبط is characteristic.
 - b- Warts on the teats manifest by different shape depending on the papilloma virus type.
 - c- Lesions may also occur on the lateral and dorsal aspects of the tongue, the soft palate, oropharynx, esophagus, esophageal groove, and rumen. Papillomas occurring in the esophageal groove and in the reticulum are a cause of chronic ruminal tympany.
 - d- Less common manifestations of papillomatosis in cattle include lesions in the urinary bladder, which may predispose to hematuria.
- 3- In goats, Papillomas most commonly occur on the face and ears but may occur on the skin generally.
- 4- In horses, Warts are restricted to the lower face, the muzzle, nose and lips, and are usually sessile and quite small, rarely exceeding 1 cm in diameter. They may also occur on the penis and vulva, in the mouth, and on the conjunctiva. All ages can be affected. Spontaneous recovery is usual, but the warts may persist for 5-6 months.

Clinical pathology...

- 1- histopathological detection of the lesions
- 2- PCR for identification of the virus
- 3-

Treatment...

- 1- Warts can be removed by surgery or cryosurgery.
- 2- Vaccination with an autogenous vaccine, prepared from wart tissues of the affected animal are effective in many cases.

Sheep pox and goats pox

It's a viral disease affecting sheep and goats and characterized by skin lesions

Etiology...

Sheeppox virus and goatpox virus, All are members of the genus Capripoxvirus.

Epidemiology ...

1-the disease are highly contagious & distributed over all the world

2-The virus enters via the respiratory tract and transmission commonly is by aerosol infection.

3-Spread can also occur from contact with contaminated materials and through skin abrasions.

4-the virus has been shown to spread via the bites of some insects .

5-the disease affect sheep and goats of all ages, breeds and sex but young , and lactating females are more severely affected.

6-Losses is from mortalities , abortions, mastitis, loss of wool,& skin condemnation .

Pathogenesis ...

After the initial viremia,typical five lesions will appear(either on the skin or internal tissues) characterized by, a roseolar erythema which followed by firm, raised papules light in color but with a zone of hyperemia around the base. Vesiculation(vesicles),a yellow blister with a pitted center, follows. The subsequent pustular stage (pustules)is followed by the development of a thick, red, tenacious scab.

Clinical findings...

In sheep...incubation period is 12-24 days , two important form will appear..

Malignant form...

mostly affected lambs, and manifested by, depression, high fever, sudden death,typical pox lesion will occur on the buccal, respiratory, digestive,and urogenital tract mucosa as well as on the un woolled areas of the skin.

Benign form...

Its more common in adults, only skin lesions occur, particularly under the tail, and there is less systemic reaction and animals recover with in 3-4 weeks. Abortion and secondary pneumonia are the main complications. Goat pox in sheep is more severe than sheep pox, and lesions occur on the lips and oral mucosa, teats and udder.

In goats... is very similar clinically to sheep pox.Young kids suffer a systemic disease, with lesions spread generally over the skin, and on the respiratory and alimentary mucosae. but in adult goats the disease is usually mild and lesions are as described above for the benign form in sheep.

Clinical pathology...

Detection of the virus using Elisa & PCR

Treatment ...

No specific treatment and we can used topical antiseptic such as tincture of iodine

Control...

1-Vaccination by using killed capripox vaccine which give protection against both sheep and goats pox. the vaccine give intra dermal at the adder area and give preotection for one year.

2-sheep pox vaccine, its also killed vaccine give protection against only sheep

Cow pox & buffalo

It is caused by orthopox of the family Poxviridae and manifested by, Typical lesions may be seen at any stage of development, but are mostly observed during the scab stage, the vesicle commonly have been ruptured during milking. True cowpox scabs are 1-2 cm in diameter and are thick, tenacious, and yellow-brown to red in color. The scab being replaced by a deep ulceration.

Lesions are usually seen on teats and lower part of the udder. Soreness of the teats develops and milk letdown may be interfered. Secondary mastitis occurs in a few cases. Individual lesions heal within 2 weeks, but in some animals fresh crops of lesions may cause the disease to persist for a month or more. In severe cases, lesions may spread to the insides of the thighs, and rarely to the perineum, vulva and mouth. Sucking calves may develop lesions about the mouth. In bulls, lesions usually appear on the scrotum.

Horse pox

Horsepox is a benign disease characterized by the development of typical pox lesions either on the limbs (leg form), or on the lips and buccal mucosa (buccal form).

Camel pox

It is characterized by pox lesions appear on the neck and limbs causing swelling and rigidity of those affected parts.

Lumpy skin disease (LSD)

Lumpy skin disease (LSD) is a severe systemic disease of cattle associated with the Neethling poxvirus, & a capripoxvirus. It has close antigenic relationship to sheeppox and goatpox viruses.

Epidemiology...

- 1-its distributed disease with high morbidity and low mortality rate .
- 2-the disease can be transmitted through ingestion of contaminated food and water and direct contact with diseased animals .
- 3-insects such as Stomoxys play good role for transmission too.
- 4-all cattle and ages were susceptible.
- 5- the disease cause economical losses through less animals production and mastitis as well as damaged to hides .

Pathogenesis ...

In the generalized disease there is viremia accompanied by a febrile reaction, and localization in the skin occurs with development of inflammatory nodules.

Clinical findings ...

- 1-An incubation period is 2-4 weeks with an initial rise of temperature, which lasts for over a week, sometimes accompanied by lacrimation, nasal discharge, salivation, enlargement of L.N and lameness .
- 2-Multiple nodules appear suddenly, They are round and firm, varying from 1 to 4 cm in diameter, and are flattened. They vary in number from a few to hundreds; they are intradermal and, in most cases, are confined to the skin area.
- 3-in severe cases lesions appear on nostrils and turbinates, causing mucopurulent nasal discharge, respiratory obstruction and snoring. plaques, later ulcers, in the mouth causing salivation. nodules on the conjunctiva, causing severe lacrimation, lesions may also seen on prepuce or vulva,. The limbs may become grossly distended with edematous fluid.
- 4-In most cases the nodules disappear rapidly, but they may persist as hard lumps or become moist, necrotic, and slough.

Clinical pathology...

Detection of the virus using electron microscope and Elisa test

Treatment ...

No specific treatment ,but we can use systemic antibiotics

Control...

- 1- limitation of transmission of the diseases & control of insects
- 2- vaccination ..
 - a-lamb kidney culture vaccine
 - b- capripox give good immunity
 - c-A freeze-dried, living attenuated virus vaccine

Bovine ulcerative mammillitis (Herpes mammillitis)

It's a viral disease caused by bovine herpes virus & characterized by lesions appear on udder and teats .

Epidemiology ...

- 1- the disease transmitted from infected animals by direct contact through contaminated hands and milk machines .
- 2- Heifers that have udder edema at calving are mostly develop severe lesions.& calves sucking infected dams often develop mouth lesions.
- 3-losses arising from mastitis &reduction in milk production in affected herds by up to 20%.

Pathogenesis ...

immunosuppression caused by parturition and to the periparturient udder edema which will predispose to infection of udder skin and teats with no viremia .

Clinical findings ...

- 1-There is an incubation period of 5-10 days. There is no systemic illness,and lesions are restricted to the teats and udder.
- 2-Vesicles occur. Which characteristically thin walled, 1-2 cm in diameter, variable in outline, and often seen at the base of the teat and spread over the udder surface, Ruptured and weeping causing sloughing of the skin. In the most severe cases, the entire teat is swollen and painful, the skin may become bluish in color.
- 3-In less severe cases, there are raised, deep red to blue, circular plaques, 0.5-2 cm in diameter, which develop shallow ulcers,& In most cases, scab formation were follow.
- 4-Ulcers in the mouth of affected cows have been observed rarely, and calves sucking affected cows develop lesions on their oral mucosa and muzzles. Ulcerative lesions on the vaginal mucosa have been recorded rarely.

Treatment ..

No specific treatment and we can u local antiseptic as udder wash or ointment with systemic antibiotics .

Control ...it done by

- 1-Isolation of affected animals and strict hygiene m the milking machines .
- 2-An iodophor disinfectant is recommended for prevent spreading of the infection .
- 3-Reducing the incidence and severity of periparturient edema in heifers may reduce the severity of herpes mammillitis.

Ovine encephalomyelitis (louping ill)

A viral disease caused by Flavivirus, which may occur in all animals specially sheep.

Epidemiology ...

1-Louping-ill virus can infect and produce disease in a wide variety of vertebrates including man, but predominantly sheep are affected because of their susceptibility.

2-The distribution of the disease is regulated by the occurrence of the vector tick Ixodes.

3-Louping-ill is a zoonosis. The major risk for veterinarians is with the postmortem examination and handling of tissues from infected animals. Laboratory workers are also at risk. abattoir persons who handle infected sheep are also at risk. The occurrence of virus in the milk of goats and sheep is a risk for human disease where raw milk is consumed.

Pathogenesis ...

After tick-borne infection, the virus proliferates in the regional lymph node to produce a viremia which peaks at 2-4 days, Invasion of the central nervous system occurs in the early viremic stage in most infected animals, causing inflammation of brain, necrosis of brain stem and ventral horn neurons.

Clinical findings...

1-In most sheep, infection is inapparent. here is an incubation period of 2-4 days followed by a sudden onset of high fever (up to 41°C) for 2-3 days followed by a return to normal.

2-Affected animals stand apart, often with the head held high and with twitching of the lips and nostrils. There is marked tremor of muscles and rigidity of the musculature, particularly in the neck and limbs. This is manifested by jerky, stiff movements and a bounding gait, which gives rise to the name 'louping-ill'. Incoordination is most marked in the hindlimbs. The sheep walks into objects and may stand with the head pressed against them. Hypersensitivity to noise and touch may be apparent.

3- finally there is torticollis and posterior paresis. In others, the increased muscle tone is succeeded by recumbency, convulsions and paralysis, and death occurs within 1-2 days later. Young lambs may die suddenly with no specific nervous signs.

4-The clinical picture in cattle is very similar to that observed in sheep, with hyperesthesia, blinking of the eyelids and rolling of the eyes, although convulsions are more likely to occur in cattle, and in the occasional animals that recover from the encephalitis there is usually persistence of signs of impairment of the central nervous system.

5-Horses also show a similar clinical picture to sheep, with some showing a rapidly progressing nervous disease with a course of approximately 2 days and others a transient disorder of locomotion with recovery in 10-12 days.

6-The infection is usually subclinical in adult goats but the virus is excreted in the milk and kids may develop severe acute infections.

7-In humans an influenza-like disease followed by meningoencephalitis occurs after an incubation period of 6-18 days. recovery is common,

Clinical pathology...

Hemagglutination inhibition, complement-fixing and neutralizing antibodies can be detected in the serum of recovered animals.

Treatment ...

Animals with clinical diseases, should be sedated if necessary during the acute course of the disease, and should be kept in a dark area with general supportive care, An antiserum has been used and give protection if given within 48 hours of exposure,