

SUMMARY

Its status as the covering organ of the animal body seems to give the integument a privileged position in terms of diagnosing diseases located at this level. In reality, however, the multiple functions and complex connections with other organs and systems often make the cutaneous organ as complicated to diagnose as any other organ less accessible to clinical examination. Therefore, a correct dermatological diagnosis requires careful collection and analysis of epizootological, morpho-clinical and laboratory data.

Dermatopathies in goats are often conditioned by risk factors such as species, clinical signs, age and exposure of the herd to unfavourable environmental conditions.

Factors that can cause dermatopathies in goats are: solar radiation (photodermatitis), nutrition (iodine deficiency), parasitism (psoriasis), bacteria (staphylococcal dermatitis), fungi, viruses (contagious ectima or papillomatosis).

The collection of information for the statistical study aimed at corroborating data on animal identification, anamnesis, and clinical manifestations of the animal.

The PhD thesis *Research on dermatopathies in goats* is structured in two parts:

-Part I, Current state of knowledge of the etiopathogenesis, diagnosis and therapy of dermatopathies in goats and

-Part II, Own research.

Part I describes the primary macroscopic and microscopic skin lesions, the main dermatopathies of goats and some notions on complementary therapy of dermatopathies in goats on organic farms.

In Part II, the clinical aspects, diagnosis and treatment of the main dermatopathies found in goats were studied, with emphasis on the discussion of the diagnostic modalities of these diseases, aiming to outline a consultation protocol and establish the main causes of the diseases, in order to adopt an appropriate therapeutic and prophylactic conduct.

To specify the diagnosis, in addition to detailed clinical examination and skin scraping, skin biopsies were taken and processed by histopathological technique for paraffin embedding following the five steps, namely: harvesting,

fixation, paraffin embedding, sectioning and staining.

We report cases of endocrine alopecia in goats due to primary hypothyroidism. Histological skin lesions were suggestive of hypothyroidism, consisting of myxedema, hair follicle atrophy and moderate parakeratosis. Confirmation of the diagnosis was made with examination of thyroxine (T4) dosage, whose values were 1.5 µg/dl in the mother and 2.3 µg/dl in the daughter. The physiological limits of thyroxine are 3.3-7.0 µg/dl. The fact that the two goats were mother and daughter suggests a genetic predisposition. The occurrence of manifestations suggestive of hypothyroidism in endemic areas should alarm farmers to take prompt prophylactic measures, to supplement iodine in feed, especially if animals are fed feed with anti-thyroid potential.

Contagious ectima (contagious pustular dermatitis) is an infectious dermatitis in sheep and goats that primarily affects the lips of young animals. The disease is usually more severe in goats than in sheep. Humans are occasionally affected through direct contact.

We report an episode of contagious ectima in adult goats following participation in a show and housing in a shelter where sheep were previously housed. We believe that the severe course of the disease was due to trauma to the oral cavity caused by consumption of prickly pear (*Pyrus spinosa*) leaves.

On histological examination of the skin, epidermal hyperplasia, parakeratosis, acantholysis and lymphoplasmacytic infiltrates in the dermis were found at the onset of the disease. After superimposition of secondary infection, pus-covered ulcers and abundant crusts represented by necrotic detritus were present.

Therapeutically, ointment containing: beeswax, glycerin, panthenol, calendula, rosemary, oregano and chamomile was administered and the animals' condition improved. Local treatment was applied by daily badijonages with 1% methylene blue. Clinical recovery occurred within two to three weeks.

Parafilaria is a biohelminthosis of the subcutaneous connective tissue, which evolves seasonally and is clinically manifested by haemorrhagic cutaneous nodules, with ambulatory character, which is why it is also called parasitic dermatorrhoea.

We report an episode of cutaneous filariasis in goats in northern Greece. The diagnosis of infestation with *Parafilaria spp.* was established on the basis of clinical features, microscopic appearance of larvae evidenced in the exudate and histological sections of the skin. Further assessment of the local flock and ELISA or PCR tests will be required to identify the parasite species.

An outbreak of sarcoptic mange affecting almost all animals on a dairy

goat farm is described. This itchy skin disease has progressively led to a dramatic decrease in milk production. The lesions of affected goats were typical of sarcoptic mange being chronic and generalised-diffuse.

Histological examination showed the presence of parasitic elements under the crusts, on the skin surface or in the hair follicles, dermal infiltrate rich in eosinophils. Pronounced parakeratosis and the presence of parasitic galleries in the dermis were also observed.

All animals in the herd were treated with moxidectin 1% injectable solution at a dose of 0.2 mg/kg, applied every 15 days four times subcutaneously.

We report an episode of chorioptic mange with severe evolution in the young in a mixed goat and sheep farm, certified organic, in which a chemoprevention programme against parasites was not carried out.

Skin lesions were very impressive in the young, consisting of very pronounced hyperkeratosis and the presence of bleeding crevices on the flexion surfaces of the knee joints.

Histological examination of the skin showed the presence of parasitic elements under the crusts on the skin surface, pronounced hyper- and parakeratosis and the presence of purulent exudate under the crusts. In the dermis, proliferation of collagen fibres [fibrosis], degenerated hair follicles, sweat glands with proliferated epithelium, ectasia, sebaceous glands reduced in volume were observed.

Treatment was with Ivermectin 0.2 mg/kg every two weeks, 3 administrations, with clinical cure after 25-30 days.

We report an episode of demodicosis in goats on a farm located in a hypothyroid endemic area. The disease was clinically expressed by nodular dermatitis, localized on the face and neck, with a tendency to spread to the sides of the chest. On pressure the nodules express a caseous exudate.

Histological examination of the skin revealed numerous *Demodex caprae* parasites in various stages of development in the hair follicles and abundant necrotic detritus on the skin surface.

In the dermis there were remnants of degenerated hair follicles and abundant mucopolysaccharide infiltrate (myxedema) suggestive of hypothyroidism.

Complementary or non-conventional therapy was used in organic approved farms due to the limitations imposed by this farming system, but it was found that failure to follow a rigorous parasitosis prevention protocol led to severe forms.

