

A Preliminary Experimental Investigation of a Water Extract of a Traditional Used Medicine Plant.

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Vernonia mogadoxensis Chiov is a wellknown plant whose roots are used in traditional medicine in Somalia treating various skin lesions, e.g. caused by ectoparasites.

Water extracts of the bark of the roots of the plant are applied to the skin of diseased animals. It is also used orally in some diseases on humans, e.g. against gastrointestinal complaints.

This paper describes an experimental trial using the above water extract in treating Sarcoptic mange in goats.

Vernonia mogadoxensis Chiov belongs to the Compositae family. It grows commonly in arid zones of Somalia. It is a shrub. Both camels and goats eat the leaves of the shrub.

Materials and methods

13 animals of a herd of 41 goats, which were infested with Sarcoptic mange, were selected for the trial. Five of the 13 goats were used as controls, leaving 8 for the treatment.

The mange was seen on the head, legs, back and sides of the abdomen. Many had severe skin lesions, particularly on the legs. Pruritus was intense. Typical skin lesions were prominent, such as «erosions», crusts, hyperkerotosis, loss of hair. Some skin areas were inflamed. Most of the animals were in a bad condition.

Preparation of the plant extract

The outer parts (bark) of the roots of the plant were crushed and left to dry for 24 hours in the shade. 150 g of the dried bark were then added to 1 l of tapwater and left for 24 hours in room temperature. The water extract was siphoned off and spared.

Microscopical examination

Skin scrapings were taken from several mangy areas of the body, at the margin of the diseased areas. The skin scorapings were resolved in 10% KOH for 15-30 minutes and a few drops of the KOH treated emulsified crusts and skin debris were microscopically checked for *Sarcoptes scabiei*.

Application of the extract

The water extract was rubbed into the skin of all affected parts of the body of the 8 animals every third day 4 times. The animals were kept under close observation for 5 weeks in an enclosed pasture.

Results

All 13 goats were found to be infested before treatment with *Sarcoptes scabiei* species. Three days after the first application of the extract all were positive for *Sarcoptes scabiei* species. After another three days 2 goats in the treated group were found free of Sarcoptic mites.

On days 10, 13 and 19 after the day of the first treatment no mites could be recovered from the treated goats.

Approximate on day 10 skin lesions were seen starting to heal. Crusts had disappeared, hyperkeratosis was less prominent and erosions and small ulcers were healing. Regrowth of hair was seen after 2 weeks.

Side effects

During the few hours after the application of the extract on the skin of the animals, they were seen seeking the shade and did not browse. The control animals were unaffected and were seen browsing in the sun.

Irritation (hot feeling) of the skin particularly when exposed to the sun was experienced by the person when handling the extract without protective gloves or when some of the liquid accidently spilled onto the skin of the person.

By accident one goat in the treated group got a splash of the extract in one eye, which became irritated. The conjunctiva became very hyperemic and after 3 days the cornea was completely «cloudy». The animal lost its sight in that eye.

Conclusions

Although no studies as yet have been done on the active substances of the root of the plant, *Vernonia mogadoxensis* (Chiov), its acaricidal properties were shown in this drug trial. The treated goats showed a positive response to the drug. The skin lesions were seen healing on the treated animals from day 10 onwards. The control goats were heavily infested with mange throughout the whole trial

period. No *Sarcoptes scabiei* mites could be recovered after day 10, after the first application of the water extract on the 8 treated goats.

The «drug» should be handled with care due to the toxic properties encountered — skin irritation and the toxic effect of the eye of one of the goats. Proper chemical-pharmacological investigations are needed before any recommendation of the usage of the plant can be made.