1967

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Cutaneous Streptothricosis
in a Shorthorn Calf
by Geraldine Schumann*

HISTORY
On January 23, 1967, a 400 lb. Short­
horn heifer was admitted to the Iowa
State University Veterinary Clinic with a
history of a chronic skin condition. She
had been treated previously with many
skin medicants and had shown no im­
provement to any of the forms of therapy.

CLINICAL SIGNS
On physical examination she was found
to be alert and in good condition except
for the skin lesions. These lesions were
dry and horny, and if removed left a skin
lesion with little exudate present. The
most extensive lesions were over the back
and in the region of the brisket. There
was no evidence of scratching or irritation
due to these skin lesions. A skin scraping
was taken to the Iowa State clinical patho-
10gical laboratory where it was found neg­
ative for fungi and mites.

ETIOLOGICAL DIAGNOSIS
On January 25, a dry skin scraping and
a hair sample were sent to the National
Animal Disease Laboratory in Ames, Iowa,
where Dr. Pierre made a positive diagnosis
of Streptothricosis.

Streptothricosis is a dermatophytosis
caused by Dermatophilus congo­lense. It is
a fungus-like bacterial condition that is
seen more commonly in sheep and is re­
ferred to as Lumpy Wool disease, but can
infect most species of animals and man.
A similar disease in cattle in Africa is
called Senkobo disease. It is more of a
problem in long-wooled breeds of sheep
such as the Merino and is more prevalent
in seasons when the weather is damp.

This condition doesn’t seem to be too
prevalent in cattle in the United States,
though a few cases have been diagnosed.

TREATMENT
Many types of treatment have been tried
with varying results. Topical application
of copper sulfate, quaternary ammonium
compounds and iodine ointments, sys­
temic administration of sodium iodide,tet­
racycline, and penicillin-streptomycin, and
changes of environment have all been tried.
There also appears to be a tendency
for spontaneous recovery if the weather
turns dry which makes it somewhat dif­
ficult to assess the value of the treatment.

Griseofolvin therapy was started on Jan­
uary 27, with administration of one Ful­
vicin bolus (2.5 gms.).

Investigation of the literature revealed
research done by Drs. D. S. Roberts and
N. P. H. Graham in which their prelimi­
ary field trial results indicated that a high
level of penicillin-streptomycin would
cause recovery in sheep. In sheep the
processing of the wool removes these
hairy lesions without damaging the wool.
Therefore an economical method of treat­
ment was needed which led to the use of
penicillin-streptomycin.

On January 28, the regiment of therapy
was changed with the administration of
15 cc of penicillin-streptomycin. Accord­
ing to Drs. Roberts and Graham the best
dosage in sheep was found to be one in­
jection of 70 mg. streptomycin/kgm. but
the dosage of penicillin was not given. On
January 31, a skin biopsy was taken from
a region over the back and sent to the
Iowa State University histopathological

(continued p. 88)
DORSAL VIEW OF ANIMAL SHOWING EXTENSIVE BACK LESIONS

CLOSE UP OF DRY, HORNY LESIONS ON THE SKIN
and digits. This innervation allows us to recognize the remnant of the previously present M. brachioradialis which is fused with the M. brachialis.

The axillary nerve furnished the flexors of the shoulder joint and the Pars clavicularis² of Pars cleidobrachialis of the M. brachiocephalicus. The latter was originally a part of the M. deltoideus, which is a flexor of the shoulder.

The cutaneous branch of the axillary nerve, the N. cutaneus antebrachii cranialis, frequently emerged between the two parts of the M. deltoideus and furnished the fascia and skin around the dorsolateral aspect of the elbow joint.

BIBLIOGRAPHY


ACKNOWLEDGMENTS

The authors wish to express their appreciation to Mr. Ronald L. Hamm for excellent illustrative art work and to Dr. Emanuel J. Hjilmann for excellent photography.

(STREPTOTHRICOSIS CONT.)

Laboratory. The result of the biopsy was the finding of a Gram + mycelia in the hyperkeratotic scab covering. The epithelium was intact but had dermal lymphoid accumulations. The histopathological diagnosis was Cutaneous Streptothricosis.

Five days after the treatment with penicillin-streptomycin the lesions began to loosen and many were easily removed by brushing. This improvement continued for about four days after which the skin condition appeared to remain the same. At this time it was decided to resume therapy with penicillin-streptomycin. From February 10 to February 12, 25 cc of Pen-strep. were administered daily to the calf. The day following the last treatment with penicillin-streptomycin quite a bit of the horned material began to loosen and fall off. By February 17, most of the skin lesions were off and the skin underneath was healing quite normally with no secondary complications. The calf was sent home on March 1, 1967.

DISCUSSION

The typical lesions seen with this condition are highly suggestive but positive diagnosis can only be made from skin scrapings or histopathological sections. Response to different forms of therapy is variable and difficult to assess because of the possibility of spontaneous recovery.

Although Streptothricosis is not a problem in this area it may be more prevalent than formally believed and may be going undiagnosed.

BIBLIOGRAPHY