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MADRAS RECORD OFFICE.

Government of Madras.

Revenue DEPARTMENT.

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Not to be folded or roughly handled

Proceedings of the Madras Government, Revenue Department, 13th July 1864.

No. 219. Read the following letter from J. SHAW, Esq., Officiating Principal Inspector General Medical Department, to A. J. ARBUTHNOT, Esq., Chief Secretary to Government, dated Fort Saint George, 20th June 1864, No. 188 :—

SIR,

I have the honor to forward a Report* upon the "Rot" in Sheep by Dr. Shortt.

* To be returned.

THE ROT.

An epidemic among sheep prevailed in this District during the months of March and April, and a large number were destroyed thereby, whilst a few shepherds took the precaution of removing the infected, and sending them into towns to the butchers for slaughter. I was not aware of the prevalence of sickness at the time, when on the 20th March 1864 my own small flock, twenty in number, consisting of one half-bred Mysore ram, two yearlings, cross between the Merino and Coimbatore, three Mysore ewes, and ten common Madras ewes, and four lambs were taken by the shepherd to graze out near the village of Thinnaveram, which is 2½ miles distant from my house. On the third day a six months' old lamb was found dead; on enquiry the shepherd said that nothing particular had appeared to be the matter with the lamb, but that he had noticed that it had seemed dull the evening before, and that a discharge flowed from the nostrils, but he did not think it of any consequence. Some two or three days after two ewes were brought to me with a "swelling of the head" as it was called; on examination, a soft swelling was distinctly visible in the sub-maxillary space, and in one there appeared to be a choking feeling about the throat, as the animal frequently attempted to clear its throat by coughing. They were immediately removed from the others, and put on dry hay diet, and half an ounce of Nitre was dissolved in a bucket of water, and left before them for a drink; they appeared dull in the afternoon, and died that night.

Examination of the carcase six hours after death, that of a full mouthed Madras ewe; the tissues about the throat were infiltrated with serum, and the opening into the larynx was closed by œdema.

Head.—There was much fullness of the veins of the skull and coverings of the brain. the brain itself appeared normal between the lateral ventricles, and at the base of the brain there were about 2 oz. of serum.

Thorax.—The lungs were fully expanded and greatly conjested. The pericardium contained a small quantity of fluid. The cavities of the heart were greatly distended with dark blood, and the substance of the heart had a peculiar worn appearance, without a particle of fat about it.

Abdomen.—The stomach was distended with gas, and contained a small quantity of undigested food (grass). The intestines were inflated, tinged yellow, and had a peculiar crepitant feel. Liver was large, and the whole of the concave surface tinged deeply with a dark green color. There was no fat about the kidneys, which were of normal size. Bladder contained a small quantity of high colored urine.

The next day five others were taken ill with the suspicious swelling under the jaw. A purge of common salt was immediately given to each, and the swelling as well as the back of the neck was cauterized with the hot iron, from which they seemed better; the swelling disappeared, and they began to feed, but were still confined to dry fodder; on the fifth day they were suddenly seized with violent diarrhœa, and notwithstanding every variety of treatment, succumbed to the disease. Eighteen out of the twenty were thus destroyed in about three weeks. When treated medically, they recovered from the swelling in the throat, only to be carried away, some days after, by the fatal diarrhœa which at its close took on the form of dysentery.

I could make nothing of the disease; it seemed, as far as my ovine experience extended, to be the disease recognized by the farmers at home as the "Rot." If the throat symptoms were not attended to, the animal died, apparently from suffocation, when on the contrary the swelling yielded to treatment, the animal was subsequently carried off by diarrhœa. This was generally

preceded by listlessness, disinclination to move, and general debility. In some there was a slight muco-purulent discharge from the nostrils, and emaciation; eyes dull and glassy; conjunctiva sometimes congested, bowels costive at first, followed by violent purging, terminating in fœtid mucus stools, occasionally tinged with blood. Tympanitis, loss of cud or rumination, these formed the chief symptoms by which the disease showed itself, generally terminating fatally in from three to seven days from the appearance of the fatal swelling under the jaw. Perhaps it would be better to give as an illustration a case or two as treated by me.

Case I.—A Mysore cross-bred ram, aged 2 years and 4 months (2 toothed); a well fed animal.

15th March.—Was observed this morning to have a soft swelling under the jaw, of small size, but sufficiently large to be apparent at first sight. The ram was immediately isolated, and had one ounce of common salt with one drachm of powdered ginger, dissolved in about 8 oz. of rice conjee, and drenched; actual cautery was applied to swelling, and to the nape of neck. *Vesp.*—The salt acted three or four times freely on the bowels, appears livelier, picks up and eats a blade of grass now and then.

To have a pint of rice gruel.

16th.—Decidedly better; swelling of jaw disappeared; is willing to graze, and to all appearance looking well; chews his cud freely, and goes about as if nothing is the matter with him. To have a tea spoonful of common salt every morning.

17th March.—Doing well. Continued.

18th do. Doing well. Continued.

19th do. Was seized during the night with purging; stools contain a good deal of mucus; animal evidently in pain, restless and thirsty.

To have one drachm of chalk with 5 grains of powdered opium, and one drachm of ginger 6 oz. of conjee, night and morning.

Applied hot fomentations to abdomen.

Vespere.—Abdomen tympanitic; animal heavy and listless, lying down, cannot be roused. Pulse excited.

Continued drench. To have a Turpentine enema now.

20th.—Died during the night.

Examination of the carcase. Head.—Much venous congestion about the membranes; vessels of the brain slightly gorged with blood.

Chest.—Cavites of the heart fully distended with dark, loosely clotted blood; the substance of the heart pale and flabby; not a particle of adipose tissue present; fibres of the heart rough as if cleaned of their connective tissue with a scalpel. Heart itself of natural size, lungs healthy, posterior lobes gorged with dark venous blood.

Abdomen.—Stomach contained some conjee. General appearance of the intestines tinged yellow, and contained much mucus mixed with soft dung; coats of the intestines soft with inclination to brittleness. Liver, congested, of dark color, apparently of natural size. Gall bladder distended with green watery bile. Urinary bladder empty and contracted.*

Case II. 5th April 1864.—A yearling male lamb (cross between a Merino ram and Coimbatore ewe) was observed this morning to have a small soft swelling under the jaw, and to appear otherwise dull with disinclination to motion, loss of cud, and abdomen tumid.

The swelling was cauterized, and 2 oz. of castor oil given at once with a drachm of ginger in some rice conjee.

Vesp.—The bowels acted freely; in other respects much the same.

To have two drachms of laudanum in a pint of rice conjee.

6th.—Continues dull, and listless, lying down; abdomen still tumid.

* Several larvæ of the *Œstrus ovis* were found inside the nostrils of the animals examined.

Applied hot fomentations to abdomen now, and to be repeated two or three times during the day. To have one drachm of laudanum with a pint of rice conjee with a drachm of ginger powder three times during the day.

Vesp.—Much the same. Continued.

7th.—Moves a short distance and lies down, sometimes restless and uneasy; abdomen cauterized. Continued drench.

Vesp.—Much about the same. Continued.

8th.—Was seized during the night with diarrhœa; the stools are copious, offensive and watery, passing out in an involuntary manner.

To have prepared Chalk, 1 drachm;

Opium, grains 5;

Powdered ginger, 1 drachm;

Mixed with a sufficient quantity of conjee every four hours.

Vesp.—Is evidently sinking.

9th.—Died during the night.

Examination of carcase.—Head not examined.

Chest.—Lungs inflated, and the parenchyma infiltrated with serum; some congestion of posterior lobes. Pericardium contained the usual quantity of serum.

Heart large and distended with black jelly-like blood, and the substance having a pale wasted appearance without a particle of fat, and feeling flabby.

Abdomen.—Stomach empty. Intestines inflated and of a yellowish tinge. Contained some fluid fæces intermixed with mucus. The mucus membrane congested, but the gut itself has an emphysematous feel. Liver large and congested, of a dark colour on its lower surface; kidneys small, and have a peculiar wasted appearance. Bladder empty, not a particle of adipose tissue visible in any part of the carcase. Almost the same *post mortem* appearances were present in every animal I examined.

As soon as the first few were affected, the others were all given a drachm of common salt each night and morning; this I had found an admirable plan in 1855-56 in the jungles of Orisa where the common country sheep were infested with the "Flukes" or *Fasciola hepatica (Distoma hepatica)*; but here it proved ineffectual. In Veterinary works the Rot is attributed to flukes, but in the animals I examined I found none, although I carefully looked for them, except in one instance in which I found the *Hydatis Acephalocystis*, of which though fully formed, I could discover but the solitary one.

In 1856, whilst at Nagpore, I examined the carcase of a sheep sent me by Captain (now Major) Power, of the Judge advocate General's Department, which was said to have died of diarrhœa, and from what I can now remember, the appearance of the dissections were exactly alike. What impressed the circumstance on my mind at the time was the distension of the cavities of the heart with dark blood. The treatment was varied; castor oil purge was substituted for the common salt; Nitre drinks were given and Ipecac. Catechu and chalk, with and without opium, were used to restrain the diarrhœa, without effect; in one or two cases in which this object was attained tympanitis set in, stimulants in the shape of country arrack with rice conjee were tried with a few, but proved of no avail. The disease here described agrees in every particular with the description of the "Rot" given by Veterinary writers in general; recent writers trace the rot in sheep to the *Cysticircus tenuatus* and *Termicoltis*, but I found neither. This disease is well known in England, where it is, I believe, generally fatal. In Egypt it is extremely destructive, not only to sheep but horses and cattle are said to suffer from it after the annual floodings of the Nile, and it is said to be readily recognized in affected sheep "by the presence of a bag full of water under the jaw," by which no doubt the swelling is meant. This, as Blaine states, is no great performance, for every carter in England could point it out when the dropsy had gained so great a head as to appear in so marked and visible a shape.—*Vide* "Blaines Veterinary Art," 6th edition, revised by Mayhaw, 1854, page 372. In this he is right, for

the natives here could do the same, and characteristically term it "*swelling of the head*;" but I think it would baffle the knowledge even of the most experienced in ovine diseases, to find any thing wrong with the animal before the appearance of this swelling; and even after it becomes visible some go about and feed well, as if nothing was the matter, for a day or two, when the swelling seems merely a local affection. In England and Egypt the cause is said to be low, marshy pasturage, but here it cannot be attributed to this. I think it has arisen more from the want of nourishing food; the absence of rain has parched up all the country round, and what little the animals were able to pick up was coarse, dry grass, or stubble, this seems so far confirmed by the fact that the only two animals that escaped the disease among my flock had for some time previous, and during the prevalence of the disease been fed on grain food, Varagoo or *Panicum Miliaceum*.

It is not feasible to put Indian sheep suddenly on grain food, leaving out the expense; it takes some time to accustom them to change of food, and it has frequently to be forced down their throats for days and sometimes weeks, before they will eat it of their own accord. Blaine recommends that iron filings should be placed in the water they drink, and common salt mixed with bran.

He further recommends turpentine and soda with water with which the affected animals are to be drenched, and states "that the diseased animals can be discovered by turning up the eyelid, and examining the conjunctival membrane, which is said to be yellow," but this can only be seen after the disease has attacked the animal, when I fear all remedial measures would be futile.

In many I have found the conjunctival membrane injected, and the vessels raised and tortuous with blood.

The first volume of Chamber's Information for the People, Article Sheep, page 67, gives a good account of the Rot, and it is there stated "that it is impossible to detect the disease when the animal is first infected by it; that sheep fatten in the early stages instead of deteriorating; and that this fact has often been taken advantage of by the animals being slaughtered and sold." This fattening was not observable here. It is also stated that by "handling or feeling along the small of back, of the diseased sheep, a crackling sound is caused, by rubbing of the skin against the ribs, and that the vessels of the eye are filled with yellow serum, instead of of blood, if diseased," but it is further stated that the greatest practical tact and talent will not always ensure success in discovering the early stages of this insidious disease.

Preventive treatment.—It is no doubt a good rule if the animals are in condition that they should be handed over to the butcher on the first indication of disease, but this I fear is not often discoverable until the fatal swelling appears, and then the disease is so far advanced that nothing can be done to effect a cure. Every precaution should be taken to remove those that are tainted from the flock. On the first appearance of the disease the flock itself should be removed from the locality where the disease exhibited itself to a distance of a few miles, on good well raised ground, and a tea spoonful of common salt should be given to each animal daily. In the wet season they should be supplied with dry food, and in the dry with green or other nutritious food. These are about the best, and safest remedies that can be employed.

All diseased animals should be removed to a distance, and destroyed, and it would be advisable to prevent tainted animls from being driven about public thoroughfares and towns, as I have every reason to believe the disease infectious.

On making enquiries I found that the disease was by no means confined in its progress, several villages in this immediate vicinity, and also at some distance were suffering from the malady. Accounts were brought in of the deaths of a great many from the same disease.

I myself witnessed several in flocks of ten or twelve tainted with the disease, and having the fatal swelling, being driven through the place on their way to the butcher. The native shepherds are so well aware of the incurability of the disease that they never attempt to make use of anything in the shape of a remedy, but remove or endeavour to dispose of the tainted animals. The natives are not sorry for the circumstance, as the carcases of diseased animals either slaughtered

or brought in dead are sold for eight or twelve Annas, and although aware of the animals having been diseased, they are delighted at the opportunity of having a good feed of mutton to make up for their usual abstinence from animal food.

About the same time *Komari* or Epizootic Aptha was prevalent among the cattle in the District; and I heard from a friend at Madras of the loss of a large number of fowls and ducks, which he said had died suddenly; they were apparently well and about the place during the day, but the following morning were found dead in their roosting places, by threes and fours daily. There was nothing remarkable in the weather, except the absence of rain and the atmosphere was frequently close and sultry. On the 9th of May there was a good shower which brought down about half an inch of rain, since which the disease has subsided, I believe, although I detected an infected animal yesterday (22nd May) from some the butcher brought to slaughter for the jail.

Komari also continues prevalent. As much interest was lately excited in the matter of cattle disease, these remarks may prove of interest, as they were taken during the actual presence of the disease, more especially as I had a very favorable opportunity of watching it among my own animals, as well as of examining others that were brought in. I have been upwards of six years in the District, and have neither seen nor heard of a similar disease until now.

Transferred to the Revenue Department.

Fort Saint George,
22nd June 1864.

(Signed) W. H. KERR,
Deputy Secretary to Government.

No. 220.

Miscellaneous.

ORDER THEREON, 13th July 1864, No. 1,226.

1. Ordered to be communicated to the Board of Revenue and Mr. Thacker.
2. The Government are much obliged to Dr. Shortt.
3. Ordered also to be laid on the Editors' table.

(True Extract.)

(Signed) J. D. SIM,
Secretary to Government.

To the Board of Revenue.
„ Mr. Thacker.
„ the Commissary General.
„ Dr. Shortt 12 copies.
„ the Editors' Table.
„ the Offg. Commr. of Salt Revenue & Abkaree Dept.

Exd. S. T. Augustin.

No. 188.

Office of the Principal Medical Officers
Fort Shaw Montana
26th June 1874.

Sir,

I have the honor to forward a Report upon the "Rot" in sheep by Dr. Steele.

I have the honor to be,
Sir,
Your most Obt. Servt.

Lt. Col.
Surgeon U.S.A.
Medical Officer.

To the Chief Secretary,
Dept. of the Interior,
Washington D.C.

To be returned.

Surgeon,
U.S. Army
Office of Principal Medical Officer,
Medical Department.

To the Chief Secretary,
Dept. of the Interior,
Washington D.C.

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I have the honor to forward a Report upon the "Rot" in sheep by Dr. Steele.

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Lt. Col.
Surgeon U.S.A.
Medical Officer.

Rec. 17th Dec. 63 No 107-11-3

Copy rec'd in a letter to Comp
19 August 64 No 20
transferred to
Revenue Report
-ment -

22/6

W Avery
Dep. Secy

No 219 & 220.

25 June 65 Rec'd

Rev = 1864

Letter
Rec'd from Gen'l Gordon Enclosing
Report
No 1038.

Sir,

The Comptroller General
&c &c &c

I
am directed by The Chancellor of the Exchequer
to transmit
herewith

Dated 20th June 1865
Rec'd 21st " "

No 1038

Subject
Forwarding a Report
upon the Petition
by Dr Shortt.
With an Order
Transferring the
same to the Board
of Inland Revenue

No 1913 July

Short Petition Case
13th July 1865

I don't see any particular
object to be gained in keeping
this Report
any longer laid on the Table
but
communicate to the
Board to whom it may concern

WH

No 1226.

Ordered to be communicated to
the Board of Revenue and Mr Thrasher
The Government are much
obliged to Dr Shortt -
Ordered also to be laid on the
Editors' table -

14. 15th of Revenue Dept 11 July
1 Mr Thrasher 15th July
3 Comptr Treasury 6th "
1 Dr Shortt 12 Copies 15th "
Editors table
Printed Dept Inland Revenue Sept 15th

Sept 15