

making inquiry as to the history of the animal, and on examination of the mouth, I said she was about ten years old; but the owner assured me that she was twelve years old, as he was only the second owner, having bought her from the breeder, who knew her age.

Nine days before she was attacked by the disease she slipped her calf in the seventh month, but to all appearance was doing well until the afternoon when I was summoned to see her. She was then noticed to be very lame on the right hind leg.

We are only too well acquainted with black-quarter in this district in year-olds, and also in two-year-old heifers, more especially affecting the throat and tongue in the latter. I can remember having seen only one other cow affected with black-quarter, and she was five years old. I am induced to record the case from its undoubted rarity. It has, I believe, been stated that the disease variously known as black-quarter, quarter-evil, or symptomatic anthrax is never seen in adult cattle in districts in which the disease is seen among young animals. If that is a rule, it has at least some exceptions, as the foregoing case proves.

ENORMOUS ENLARGEMENT OF THE LIVER OF A COW, DUE TO THE PRESENCE OF ECHINOCOCCUS CYSTS.

By JOHN ROBERTS, M.R.C.V.S., Wrexham.

THE subject of this note was a cow of the shorthorn breed. When I was called in to see her, I was informed that she had calved some 4 or 5 days previous, this being the second calf she had given birth to (I suppose she was three years old, as it is the rule rather than the exception in this district to calve heifers at two years old).

She was emaciated, unthrifty in her coat, and tympanitic, and the eyes were sunken a good deal; she was purging profusely, and had not got rid of the placenta after calving. The latter was extremely foul-smelling, so I removed it manually, and syringed out the womb with an antiseptic. I find that retention of the cleansing is a common cause of fetid diarrhoea, and I was therefore not surprised at the purging, but from the "bubbling" character of the fæces, and the cachectic condition of the cow, I suspected she was a *tubercular* subject to begin with. She had no appetite whatever, and only a very small quantity of milk was secreted. I ordered stimulants (ale, gruel, etc.), and sent some tonic powders. I gave the owner an unfavourable prognosis.

The cow rallied somewhat after this, and I sent some more tonic astringents. The "bubbling" character of the fæces continued. Auscultation of the chest revealed nothing; the temperature kept about 104° F., or perhaps a little less. Abdominal rumbling sounds were continually heard, and remarked upon by the owner. At the end of three weeks after seeing her first I advised slaughter. (I had only paid about three visits altogether, as the case was in my opinion incurable.) The cow was accordingly killed, and I called at the knacker's yard two days afterwards in order to ascertain what lesions had been revealed. I found that there had been kept for my inspection only the liver, the other organs having been apparently healthy. The liver was enormously enlarged, and imbedded in its substance

there was an immense number of echinococcus cysts. These were of various dimensions, the largest being about the size of a goose's egg, or somewhat larger. On weighing the entire organ I found that it was no less than 145 lbs.

To meet with echinococcus cysts in the livers of cows is by no means rare, but it is certainly uncommon to find so many cysts as were here present in one animal, or to find the organ so immensely enlarged. None of the cysts showed any signs of degeneration. It is needless to say that the liver was much distorted, and its entire surface had a peculiar humpy character, due to the projection of the most superficial cysts. What remained of the original liver tissue was visibly cirrhotic, and a microscopic examination subsequently made by Professor M'Fadyean showed that the lesion of nutmeg liver was also present.

Abstracts and Reports.

GLYCERINE ENEMATA IN VETERINARY PRACTICE.

THE surprising success of glycerine enemata in human practice has called for experiments with the same in the case of the lower animals. Dr Schindelka, at the Veterinary College in Vienna, conducted numerous successful experiments on horses. He found that the injection of 5 grammes (about 77 grains) of glycerine into the horse's rectum sufficed to bring about quickly the discharge of fæces.

Joly¹ experimented on 50 horses and 10 dogs, and was surprised with the excellent results. He found that the injection of 1-2 grammes (15 to 30 grains) of glycerine into the rectum was sufficient to excite immediate and several times repeated defecation. These injections appeared to Joly to set up no unpleasant sensation. The expulsion of the fæces seemed to be effected without pain or straining, but after the second or third act of defecation a marked reddening of the rectal mucous membrane was observable. In the dog also the glycerine injections were very active, though 1-2 grammes were sometimes inefficient.

Professor Vogel of Stuttgart carried out a great number of experiments of a like kind on cattle, in order to ascertain whether and in what way the rectum responded to the application of glycerine. He found that common officinal glycerine, either undiluted or diluted to one-third, caused a more or less strong irritation of the mucous membrane and musculature of the rectum, and excited in various degrees, after a few minutes, and often within a minute, successful attempts to defecate, and this whether the animals were healthy or diseased. The glycerine injections excited a transitory condition of hyperæmia.

By the experimental administration of large quantities of the most concentrated glycerine the animals were much disturbed, and in some a short period of actual tenesmus occurred, leading to the repeated discharge of small quantities of fæces mixed with a dark-brown fluid. The clear, neutral glycerine, either undiluted or at most mixed with one-third of water, was found to be the most useful, and for adult cattle the quantity required was

¹ Presse Veterinaire, March 1888.