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Penicillin Therapy in a Case of Canine Meningitis

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reticular mucosa. The spleen was swollen to nearly three times its normal size and was infiltrated with a yellowish purulent exudate and multiple abscesses. One abscess was much larger than the others, and the entire spleen was encased in a heavy capsule, indicating that the lesion had been present for several months. Metastatic, pyemic abscesses, about one cm. in diameter, were also found in the liver and lungs.

Upon close examination a degenerated tract was found between the reticulum and the largest spleen abscess, indicating that the etiologic agent was brought through the reticulum to the spleen by the perforation of a foreign body, perhaps a piece of bailing wire. Exudate from the abscesses of the affected organs was subjected to bacteriological examination. Corynebacterium pyogenes was cultured from the lesions in the spleen, liver and lung. An anaerobic, Gram-positive, non-sporeforming organism, resembling Actinomyces bovis, was also isolated.

Traumatic multiple abscess of the spleen was the final diagnosis. This condition is very rarely seen in the dairy cow, as was pointed out by the fact that very few of the attending clinicians had ever seen a similar case.

This disease, occurring so intimately with parturition, might be explained as the rupture of a previously incurred abscess by the stress of the abdominal organs during the act of parturition, with a subsequent escape of pyogenic exudate from the encapsulated abscess. The bacteria were then transported throughout the splenic tissue. From this it can be assumed that the organisms were not filtrated entirely by the spleen, but rather continued their course in the portal circulation to the liver, thence to the heart and lungs. The organisms were present in sufficient numbers to form abscesses in the lungs, but the titer was lowered in the blood of the pulmonary veins so that a general septicemia did not result. A pyemia and not a septicemia existed.

Penicillin Therapy in a Case of Canine Meningitis. Frequent observation of severe cases of meningitis and encephalitis in small animals has presented a serious and challenging problem at the Yarborough Animal Clinic in Miami, Florida. We have been forced to recommend euthanasia too many times due to unsuccessful therapy. From a practical viewpoint, this is the best recommended course because of the extremely high mortality rate in spite of all efforts. However, from a scientific, medical, professional, and psychological viewpoint, it is very unsatisfactory.

These cases present a fairly constant clinical picture. Many times they are sequellae to distemper. Frequently the “peculiar” attitude of the patient is the first symptom noted. Meningococcic infection is suspected, though not cultured for absolute diagnosis. However, sulfa-therapy using either sulfanilamide or sulfathiazole has effected a cure in only a very few limited mild cases.

**Distemper**

Recently we had a 2-year-old French poodle in the hospital, being treated for a mild case of distemper. She was given repeated massive doses of anti-serum with supportive symptomatic treatment of vitamins, yeast, vitamin B complex (intravenously), vitamin C and honey, and saline infusions as needed.

Approximately three weeks after treatment was initiated, she was discharged from the hospital in apparently normal
condition. Three weeks later she was returned with a history of having two severe chewing fits at home within the past 18 hours. She showed an extremely nervous and anxious expression in her eyes, was very sensitive to digital palpation over the tempora, had an elevated temperature, and proceeded to have more fits in the hospital. With these clinical symptoms and the history a severe meningitis was diagnosed.

We were fortunate enough at the time to have an ampule of penicillin powder and it was decided to attempt its use as a last-resort measure. It was dissolved in triple-distilled water to the strength of 5,000 units per cc.

The initial dose was injected intrathecally in the atlanto-occipital articulation. Ten cc. of the spinal fluid were removed and replaced with 10 cc. of the prepared solution diluted to contain 10,000 units. Therapy was maintained over a 36-hour period with intramuscular injections of 1 cc. (5,000 units) every three hours.

Recovery

Supportive symptomatic treatment was included and a rapid, uneventful recovery followed. The fits ceased, the elevated temperature lowered, and she was apparently normal in five days. However, she was maintained under constant observation for a week to insure against a possible recurrence, being sent home exactly 12 days after the case was presented.

This was a very thrilling and spectacular recovery, but it must be pointed out that this is just one case using a relatively new therapeutic agent, so further study and observation of its use is to be recommended.

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Abortion

On the fourth day in the clinic, a fetus 25 cm. long was aborted. Most of the fetal membranes were retained. A differential blood count was made which demonstrated a great increase in lymphocytes.

Three days later the animal became much weaker and was destroyed. Post-mortem examination revealed a pyometritis which explained the discharge and the inflamed condition of the vagina and the vulva. The uterine infection had metastasized to the lungs and cranial cavity. Numerous pulmonary abscesses less than 1 cm. in diameter and containing a brownish pus were found. Considerable necrosis surrounded these lesions. A cranial abscess was located outside the dura in the sphenoid area of the brain. It was responsible for some of the previously mentioned symptoms. This abscess was a collection of brownish pus with considerable necrosis inside a heavy capsule.

Differentiation of the types of central nervous disorders is difficult as the symptoms are dependent upon the portion of the brain affected and the extent to which it is affected. Thus, the same disease can cause many different symptoms, and many diseases can cause the same symptoms. This is especially true in differentiating between the suppurative encephalitis mentioned above, sporadic bovine encephalitis, and malignant catarrhal fever.

Purulent encephalitis of a week duration would usually have little, if any, elevation in temperature. The lymphocyte count would be greatly increased due to the chronic nature of the primary cause.