

Exploratory Laparotomy In The Bovine

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IN THE bovine species there may be seen a considerable number of disease conditions which give rise to a very similar sequence of clinical symptoms. Every case has its own individual variation due to the behavior of that particular animal in response to a stimulus, but the general picture can be broadly painted. A cow is seen "off feed" by the owner. Some cases show acute symptoms of inappetence and associated distress while others show a milder but progressive advance of symptoms. Production drops in dairy cattle and beef stock shows suspension of growth. Often when these animals are treated with laxatives and stimulants they respond temporarily, then drop back; others show no response to medication. After a week or two such an animal will begin to show emaciation, the hair-coat becomes dry and wrinkled, and general depression follows. Clinical examination is usually inconclusive. Very often one feels, "If I could just get my head inside and look around!"

Diagnosis

Of course there are many means of investigation in arriving at a diagnosis in obscure cases. By means of rectal palpation one may determine cases of metritis by the size and degree of firmness of the uterus. Cases of pyelonephritis of sufficient duration results in enlargement of the ureters which are readily palpable. Many cases of lymphocytoma may be identified by enlarged iliac lymph glands. Neoplasms or abscesses may be found in the pelvis or posterior abdominal region.

Another step towards an accurate diagnosis which is within the reach of any veterinarian is the use of some simple laboratory tests. In the examination of the blood, cell counts are enlightening and of interest, but I think more can be learned by study of the cell types as seen when a regular smear is stained and observed under the microscope. A large proportion of segmented leucocytes is seen in pyogenic infection. If there is clinical reason to suspect traumatic gastritis, we feel that the above reaction is conclusive. An increase in lymphocytes and a preponderance of immature forms is associated with lymphocytoma. In considering cell changes in erythrocytes, when seen in a smear, one must exercise careful judgment. Crenation and other changes may occur during drying of the preparation which change the cell body but have no real significance. Tests of urine samples will indicate chronic cases of acetonemia, reveal presence of corynebacteria in pyelonephritis, show leucocytes or sometimes bacteria in infection of the urinary tract, and uriferous casts are seen in nephritis.

Indications for Laparotomy

However, clinical symptoms are sometimes confusing, and laboratory tests fail to determine the exact condition. Then one should consider exploratory surgery. If the client is properly coached, the operation will have a favorable sequel even though a cure is not effected. First we hope to find and remove the cause of distress. This failing, we may render a diagnosis of an incurable condition while

the animal may still be salvaged for beef. Third, failing to find anything conclusive, the client may be made to feel that everything reasonable has been done, and he is now convinced that the case should be terminated by euthanasia or slaughter. In any event, abdominal surgery may be performed in the bovine without deleterious effect on the general welfare of the individual.

Procedure

In nearly all of our cases in which an exploratory operation is performed, unless we find something to halt our progress, we go on and complete a rumenotomy. For this reason we select the left flank as the operative field. We prepare the surgical area by clipping (we very seldom shave the area for this operation), scrubbing first with water, then with liquid germicidal detergent. Just before starting the operation we flush the area with 70 percent alcohol. The cow is placed in a stanchion with her right side against a wall. Paravertebral anesthesia is used to block the last thoracic and first two or three lumbar spinal nerves using 2 percent novocaine. In making the abdominal incision, I like to incise deep enough to cut through the skin and fascia and transect the fibers of the external oblique muscle. The fibers of the internal oblique and transverse abdominal muscles are separated and spread by blunt dissection. The parietal peritoneum is incised and the invasion of the abdominal cavity is accomplished.

At this point one may examine the abdominal contents for evidence of pathology. One may encounter diffuse peritonitis, adhesions indicating chronic local peritonitis, abscesses, neoplasms, obstruction or atresia of the digestive tract. Intussusception or volvulus may be seen. A closer check on the kidneys and ureters is possible. This examination is made by passing the hand over the posterior part of the rumen and palpating, or by depressing the organ sufficiently to direct a light into the cavity and making a visual search. One may also pass his hand forward between the rumen and body wall and palpate the lateral margin of the liver. In this way the operator can

estimate the size of the liver and sometimes can locate abscesses in this organ.

Rumenotomy

Having found nothing significant thus far, we continue to perform a rumenotomy. We use the method described by Udall in his textbook, "The Practice of Veterinary Medicine," supporting the rumen wall with four tapes held by two assistants and inserting the embroidery hoop in a rubber sheet. Upon entering the rumen one sometimes encounters a condition which we consider conducive to ill health. These are the animals in which we find the rumen contents dry and caked about the periphery of the organ forming a sort of shell and lacking the characteristic pungent odor that is identified with rumenal fermentation. When this situation is recognized we remove all of the dry, caked material that can easily be taken, vigorously stir the remaining material through the fluid portion that is found in the bottom of the rumen and pour into the organ a quantity of rumen content that we have just siphoned out of the rumen of a healthy cow.

While in the rumen we always pass our hand forward and across the midline into the reticulum searching for trauma or cause of occlusion. On several occasions I have found ingested fetal membranes, one end of which has entered the rumen and the other started down the esophageal groove, thus blocking the tract. One case had a rag fixed in the same position. Metal objects piercing the wall of the reticulum may be withdrawn with good results. A variation we see is in the form of an indurated mass definitely adherent to the reticulum on one side and the abdominal wall on the other. These are often due to small segments of wire that have passed through the reticular wall with the tract healing behind them. These lesions serve as foreign growths, and we suspect that they interfere with normal gastric activity. To treat these cases we load a large seton needle with cotton gauze and inserting the needle into the reticulum pass it through the reticular wall, through the indurative tissue and out through the body wall.

Twenty-four to 36 hours later we pull the seton out from the external side. This drains the mass and allows exit of any foreign metal. No reticular fistula has ever developed following this treatment.

We find that there is little need to hesitate when considering the advisability of performing an exploratory rumenotomy. A number of cases have been operated in which the findings were negative, but definite improvement in the health of the animal followed surgery. In those cases where improvement did not follow, the operation is not particularly injurious to the animal.

Brucellosis Control

Cooperative action by representatives of practicing veterinarians and livestock sanitary officials has opened the way for wider participation of practitioners in bovine brucellosis control.

Stimulus for the action came from the American Veterinary Medical Association's Committee on Practitioner Participation in Brucellosis Control.

Following a preliminary conference with livestock sanitary officials in Columbus, Ohio, Oct. 10, 1949, the AVMA committee presented a set of recommendations designed to make the control programs more acceptable to men in private practice.

These recommendations were favorably received by the Brucellosis Committee of the U.S. Livestock Sanitary Association and incorporated as amendments to a report adopted at the 1947 USLCA meeting.

Plans for brucellosis eradication, listed as plans A, B, C, and D in the 1947 report, along with amendments adopted at the 1948 meeting of the USLSA, were acceptable to the majority of practitioners, but legislative and educational provisions of the report were not generally acceptable. Principal differences centered on the system of payment for control work, relations with county and municipal veterinarians, "paper work" requirements, and the role of practitioners in formulating the control programs.

Accordingly, the AVMA committee asked for and obtained the following clarifications and changes:

- 1) Payment on a per head and/or per farm and per head basis.
- 2) Acknowledged the need for supervision by full-time employed state and federal veterinarians, but questioned the wisdom of requiring private practitioners to work under county or municipal veterinarians.
- 3) Urged reduction of "paper work" wherever possible.
- 4) Voice for practitioners in local educational programs.
- 5) Provision for development of state programs in full cooperation with the state veterinary medical associations and livestock industry representatives.

The AVMA committee is composed of Drs. A. M. Orum, Carthage, Ill., chairman; C. E. Dee, Hollywood, Fla.; J. K. Dewar, Cherokee, Iowa; E. A. Grist, New Braunfels, Tex.; P. G. MacKintosh, Yakima, Wash.; J. L. McAuliff, Cortland, N. Y.; and O. H. Stalheim, Vermillion, S. Dak.

"Our committee as well as the officers of the AVMA appreciate the cooperation of sanitary officials in resolving the differences that have arisen," Chairman Orum said at the close of the conference in Columbus, "and we feel that we can now put full effort into enlisting the general support of practitioners in this work."

Erysipelas In Sheep

Sheep as well as man can be infected with *Erysipelothrix rhusiopathiae*. In most cases observed in sheep, the infection was localized in the joints, and not uncommonly in the form of polyarthritis, accompanied by lameness and general malaise. In at least one reported case (Spiegl) the polyarthritis was associated with an omphalophlebitis due to the erysipelas germ.