

Ultrasonography-A Clinical Examination Auxiliary Tool of Umbilical Disorders



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Short Communication

Ultrasonography has revolutionized livestock production since the early 80's, mainly in the field of reproduction. Utilization of this modern tool can be and should be optimized.

Animal husbandry has high costs, reduced profit margin and demands higher professionalism with regards to consulting companies, therefore therapeutic diagnosis needs to be accompanied by ultrasonography so that the input of a Veterinarian towards a problem can have higher accuracy and for example, a calf or replacement heifer's loss can be avoided.

Ultrasonography can be and should be more frequently used in bovine medical clinic. In this article, its utilization will be debated towards an important casuistry associated to the development of dairy heifers. The Veterinarian will have higher accuracy on its diagnosis and will be able to prescribe a more efficient and adequate treatment supported by this complimentary exam [1].

In the case of female dairy calves, one of the most common disorders is Omphalophlebitis, originated from a poor colostrum intake and inadequate umbilical asepsis. This illness is an umbilical inflammation that can affect the liver (with abscess formation), trigger persistent urachus (bladder attachment), induce umbilical hernias and affect locomotor system via the occurrence of septic arthritis [2].

In relation to liver abscess, an accurate diagnosis can only occur with the assessment of ultrasonographic images. These images can be obtained via a non-invasive procedure and with the same apparatus utilized for reproductive exams. Moreover it is a tool that subsidises the prognostic and treatment definition of this illness, similarly to persistent urachus, umbilical hernia and septic arthritis. After pre-operative hair removal of the area under examination, application of gel (appropriate for ultrasonography) and using a transrectal probe, it will be possible to visualize an area with a different content than the normal hepatic structure (Figure 1), with a circular format and in some instances clearly ascending from the umbilicus towards the liver or even in the interior of this organ. In the case of

persistent urachus it can be observed the presence of liquid at the abdominal cavity and then assess the degree of the disorder [3].



Figure 1: Ultrasonographic image via the acoustic window of right antimer between 10° e 11° intercostal spaces with the presence of hyperechoic structure, of circular appearance, adjacent to integral hepatic parenchyma, suggestive of capsule of abscess.

In terms of umbilical hernia, ultrasonography will assist the illness prognostic by means of determining the degree of the condition and the need or absence of surgery. Furthermore, in the case of a surgical scenario, it will subsidise the Veterinarian's decisions.

In addition to the abovementioned complications, it is not uncommon to observe in a dairy farm female calves claudicating, stepping with the tips of the toes due to locomotion pain. This can be a case of septic arthritis. This illness can kill an animal or limit its productive performance during its life if not diagnosed rapidly and treated effectively. In this case, ultrasonographic image can assess the degree of the illness and be used as a guide to the needle to drain the articular liquid and increase treatment success.

To contextualize even further, imagine if the female dairy calf with this illness is a daughter of a highly ranked cow, via artificial insemination, embryo transfer or *in vitro* production, and due

to lack of care didn't receive the necessary attention! The cost/benefit and the accuracy of an exam like ultrasonography justify its utilization!

There is no doubt that the benefits of the employment of ultrasonography on a dairy farm are enormous, and go beyond reproduction. An accurate, cheap and fast exam should not stay out of the routine of dairy farms; maximizing, diversifying and justifying even further the use of the ultrasonography.

During our practice at the Veterinary Hospital and dairy farms near Lavras, we have successfully utilized a device with transrectal probe and disseminated the utilisation of this accessible technology.

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