

Solving unusual clinical presentations of the bovine abdomen: back to anatomy.

Pieter Cornillie

Department of Morphology, Faculty of Veterinary Medicine, Ghent University, Salisburylaan 133, 9820 Merelbeke, Belgium.

The topography of the bovine abdominal organs is typically depicted as a kind of a complex three-dimensional puzzle that has been meticulously put together, with little to no room for variation. Although the different anatomical textbooks all illustrate the lay-out of the bovine abdomen quite similarly regardless of breed, age or physiological condition of the animal, in the clinical environment, one is well aware that the relative position of the internal organs in the bovine can change dramatically. The pathological displacement of the abomasum is one of the more notorious examples, but also in physiological conditions, most notably during pregnancy, the relative position of the internal organs can be seriously altered.

Approximately 99% of the (left-sided) abomasal displacements occur within the 6 weeks post partum in highly yielding dairy cattle. Diagnosis is easily drawn during clinical examination by locating the abomasum at a spot totally different than described in the 'textbook cow'. However, during the current lecture, the possibility of a left-sided displacement of the abomasum in the near-term gravid cow will be considered. First of all, the normal anatomical position of the abdominal organs both in the non-gravid cow as in the pregnant animal will be explored to provide an answer to the question why abomasal displacement normally does not occur in pregnant animals. Next, our anatomical knowledge will be further challenged by the search for any possible alternative configuration of the abdominal organs during pregnancy that, in rare occasions, eventually might lead to the development of abomasal displacement. By then, it will become clear that this condition cannot be diagnosed by a standard clinical examination, even in combination with ultrasonography, and that only laparotomy or abdominal endoscopy can provide a final diagnosis.

The final part of this lecture will focus on some specific aspects of the abdominal topographical anatomy of the newborn calf, in particular on those elements which discern the calf from the 'textbook cow'.