

Diagnosis and Surgery of Displacement of the Abomasum in Dairy Cows in Slovenia

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Introduction

Proper functioning of the gastrointestinal tract is among the most important factors which influence normal growth, gain of weight, fertility and milk yield in dairy cattle. Any impairments, often clinically inapparent, can trigger a considerable decrease in milk production, weight loss and reproduction disorders. During the last three decades, many researchers thoroughly investigated ruminant nutrition which enabled a great progress in the field of making a diagnosis, therapy and prevention of the diseases in ruminants.^{2,3,4,5,6,7,8,9} The surgical techniques used to correct abomasal displacement have advanced a great deal as well.^{4,7,8} In this disease, the abomasum is displaced from its normal position on the abdominal floor to the left or to the right side of the abdomen and sometimes undergoes torsion.¹⁰

At the Clinic for Ruminants we described the incidence of the right-side (RDA) and left-side displacement of the abomasum (LDA) for the first time in 1969. Until 1993, forty-seven surgical corrections of the abomasal displacement were carried out more or less successfully.

A diagnosis of displacement of the abomasum can usually be made by a combination of auscultation and percussion. The diseases that may cause a "ping effect" in the abdominal cavity are well described by HULL.¹ A good anamnesis and examination method are necessary for an early detection of the pathologic changes in the abdominal cavity.^{7,8} For a reasonably accurate diagnosis, a good anamnesis is a most useful aid.¹ In modern veterinary practice only surgical corrections of abomasal displacement come into consideration.

Materials and Methods

At the Clinic for Ruminants in Ljubljana we have been reasonably successful at diagnosing diseases of the abdominal cavity by careful clinical examination of dairy cows utilizing also the method of localizing the presence of the "ping". With direct digital percussion ("flicking") or the method of tapping with a percussion hammer over the area to be examined, a clear, high-

pitched "pinging" sound is emitted by the gas-filled viscus in the abdomen which is by simultaneous auscultation clearly audible.

During the last decade we have made surgical corrections of RDA, LDA and abomasal torsions on a standing animal in the right paralumbar fossa. A right flank omentopexy has been undertaken as treatment of both displacements using the Gerlah needle (Hauptner PSV) with the suture that closes the peritoneum and transverse abdominal muscle and skin with a knot that is removed after 10 - 15 days.

Results and Discussion

Table 1. Presentation of the diagnosis of abdominal cavity diseases established by the "ping"

Disease diagnosis	No. of Cases
Left side abomasal dislocation	29
Right side abomasal dislocation without torsion	12
Right side abomasal dislocation with torsion	6
Cecal torsion	4
Uterine rupture	3
Postparturient atony of uterus with retention of the fetal membranes	2
<i>E. Coli</i> mastitis with gas in abdominal cavity and two intestinal ruptures	3
Total	59

Using the above described technique of establishing the "ping effect" at the left or the right side of the abdomen, an early detection and localization of the abomasal displacement as well as dilatation and cecal torsion were possible. A clear "ping" was in this case located under the caudal area of the rib cage which extended to the pelvic cavity. A diffused and muffled "ping" is distinctly different and indicates the presence of pneumoperitoneum arising from various causes. By laparotomy, we have however established on several occasions other changes in the abdomen in spite of a

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positive "ping effect" (Table 1).

Patients with signs of the so-called "ping effect" should undergo a careful clinical examination and care must be taken in evaluating its significance. According to our findings as well as other authors' reports, heavy mortality rate is the outcome in the majority of cases. Although the "ping" should be considered abnormal, it is not always an indication of a surgical condition. If it is established that surgical intervention is indispensable, it should be undertaken immediately. In cases of abomasal and cecal torsion patients do not survive. A common right displacement of the abomasum with dilation is usually not a life threatening condition but as it can soon become a torsion, it requires immediate surgical intervention.

Summary

At the Clinic for Ruminants the authors have used, besides the standard examination method, also the method of combined percussion and auscultation of the abdomen. By this diagnostic aid at the left or the right side of the abdomen they could very successfully detect and localize a variously large, ovally-shaped area emitting a characteristic, sharp, metallic sound, the so-called

"ping" caused by the abomasal displacement. From 1981 - 1993, twenty-nine cases of left and eighteen cases of right sided "ping" were encountered. In most cases surgery proved successful. In surgical corrections of left side displacement of the abomasum and afterwards also the right one, the authors sutured and thus fixed the omentum using Haupter PSV silk ribbon. The method is fast, simple and reliable.

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Abstract

Surgical correction of left displaced abomasum in cattle

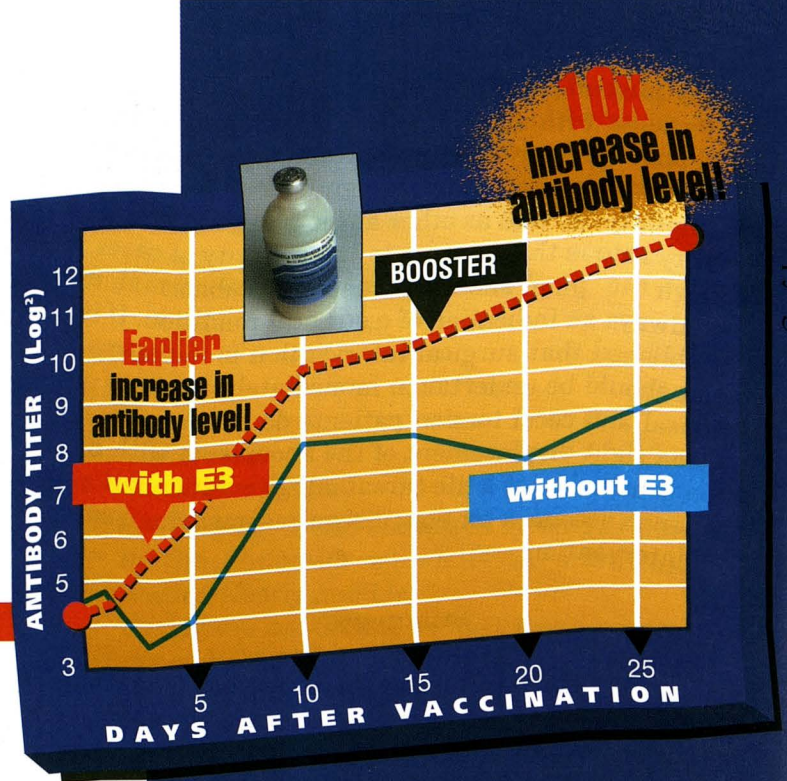
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Veterinary Record (1995) **136**, 265-267

A left displaced abomasum was corrected surgically in 200 adult cattle by a modification of the method described by Dirksen. Manual repositioning of the displaced organ, localization of the pylorus and fixation of the greater omentum are described in detail.

Displacement of the abomasum has become one of the most important metabolic and organic internal disorders of cattle and the disease is most prevalent in high performing milk breeds (Sali and others 1987, Karatzias

1992, Lotthammer 1992). In this clinic the proportion of cattle with the condition is between 20 and 25 percent. A left displacement of the abomasum can be treated in a number of ways including conservative methods such as a hay diet, spasmolytic agents, analgesics or parasymphomimetic agents, by the puncture of the abomasum, or by rolling and surgical intervention. Conservative methods carry the risk of a recurrence of the condition.



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