

# SURGICAL CORRECTION OF LEFTSIDED ABOMASAL DISPLACEMENT WITH A MODIFIED ROLL AND SUTURE METHOD. SUCCESS RATE AND CONDITION IN LATER LACTATIONS

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## INTRODUCTION

The number of abomasal displacements has increased consistently in the last ten years with increasing milk production in a large animal practice in northern Germany despite improved management. Besides displacement (1), and mistakes in management (overfeeding during the dry period, inadequate "steaming up"), it is primarily due to feeding regimes (2) which in this practice include silage of corn, grass or turnip greens, hay, turnips and concentrates. The abomasal displacement has been observed frequently secondary to diseases such as liver disease with ketosis, latent hypocalcemia, abomasitis, pelvic phlegmons, endometritis, and lamenesses with associated general malaise and a decrease in food intake. About half of all abomasal displacements can be cured or disappear spontaneously with fluid therapy, intensive therapy of the underlying disease, change in feeding and peroral therapy (via stomach tube) to improve rumen digestion. If conservative treatment of the patient is not possible, the surgical correction of the abomasal displacement is necessary. Besides the rightsided laparotomy and omentopexy (3), the author used a modification of the method described by HULL (1972) which is fast and simple, and is accepted by many farmers even for the treatment of valuable cows.

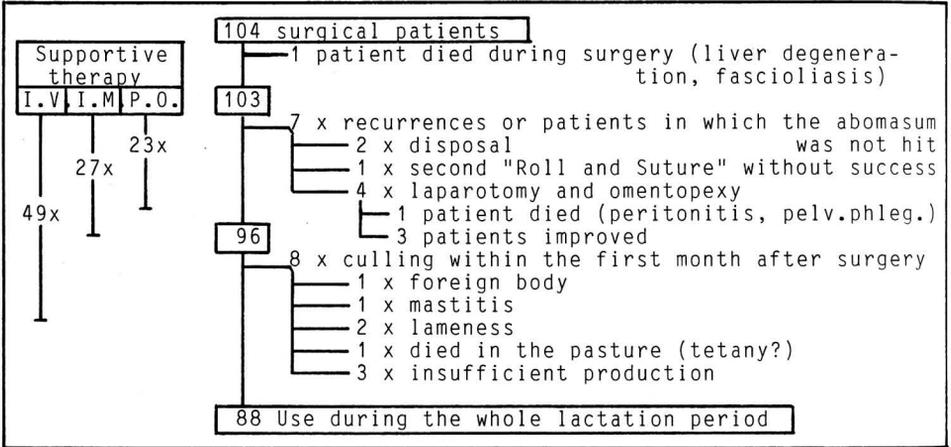
## SURGICAL PROCEDURE

The animal is led to a soft foundation (pasture or straw) and is sedated with 1 - 3 ml of xylazine (R). After placement of a thick rope above the dew claws it is laid onto the right side. The free end of the rope is fastened to the front loader of a tractor. By slowly lifting the loader and moving it forward simultaneously, the patient can slowly be turned onto its back. It is important to pull the legs as far caudal as possible to get more tension of the abdominal wall. The left flank area is massaged with both hands until the bloated abomasum can be diagnosed on the ventral abdominal wall by its typical "ping" sound. The surgical side which lies paramedial on the right abdominal wall between rip cage, sternum, V. subcutanea abdominalis and umbilicus is prepared for puncture with a 2,0 x 70 mm disposable cannula. The typical smell of abomasal gas escaping through the cannula confirms the location of the replaced abomasum. In direct proximity to the first puncture site, a second puncture is made with a semiround 20 cm long traumatic needle and a double, strong silk suture (metric 9) is placed reaching far cranially through the lumen of the abomasum and tied. This procedure has to be performed quickly, to make use of the gasfilled organ. After the one time fixation the outflow of gas through the cannula can be accelerated by compression of the lateral abdominal wall. After an additional iodine scrub, the patient is brought into left lateral recumbency by slowly letting down the front loader. The surgery is completed with the intravenous infusion of 500 ml of glucose solution. In the days to follow, the patients undergo physical examinations and if needed are treated symptomatically as de-

scribed above. The suture is removed 7 to 10 days post surgery, and the swellings of the surgical site, which occurs in most cases, decreases quickly.

**RESULTS**

Overview of the surgical success rate



Condition in subsequent lactations

42 patients were evaluated, which had calved one or more times after surgery.

Observation period	1	2	3	4	5	6	lactations
Number of patients	15	8	11	3	3	2	total: 42

After the first surgery, 2 cows had abomasal surgery again during the first year, 2 of 8 cows had abomasal displacement again during the second year. One highly producing cow had surgery already 4 times without complications. Each year the animal developed a severe abomasal displacement post partum which could not be treated medically. Sterility, mastitis, lamenesses, or discontinuation of the milk production bussiness by the farmer were listed as causes for disposal of the surgically treated animals.

**CONCLUSIONS**

Surgery should be performed after maximally 2 days to decrease time of reconvalescence if leftsided abomasal displacement cannot be cured with intensive therapy including that of the underlying disease. The surgical method described above can be performed in valuable cows as well, although they may relapse. Cure can be obtained by fixation of the abomasum through laparotomy and omentopexy if the abomasum was not identified or permanently fixed with the method. Relapses can be treated again with the "Roll and Suture" method in subsequent lactations. The patients have to be supported until their feed intake is sufficient.

## REFERENCES

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## SUMMARY

Over 100 Holstein cows underwent surgical correction of leftsided abomasal displacement in a large animal practice in northern Germany between 1984 and 1991. The surgical method, surgical success rate and the condition of the patients in later lactations are described. The simple surgical method was associated with a high success rate if the abomasal displacement was not complicated by other diseases. A number of patients, however, relapsed in later lactations, especially during the second lactation post surgery. Those animals underwent a second surgery without complications.

## RESUME

CORRECTION CHIRURGICALE DU DEPLACEMENT A GAUCHE DE LA CAILLETTE PAR UNE METHODE "ROLL AND SUTURE" MODIFIEE (RESULTATS OPERATOIRES ET SUITE LORS DES LACTATIONS ULTERIEURES)

Entre 1984 et 1991, dans une clientèle vétérinaire d'Allemagne du Nord, plus de 100 vaches Holstein subirent une correction chirurgicale du déplacement à gauche de l'abomasum. La méthode chirurgicale utilisée, les résultats obtenus et l'état de santé des patientes lors des lactations ultérieures sont présentés. Le procédé chirurgical est simple et le taux de succès élevé si le déplacement de la caillette n'est pas compliqué par d'autres affections. Cependant, un certain nombre de récurrences furent constatées lors des lactations ultérieures. L'intervention chirurgicale put alors être renouvelée sans complications.

## ZUSAMMENFASSUNG

OPERATION DER LINKSSEITIGEN LABMAGENVERLAGERUNG NACH EINER MODIFIZIERTEN "ROLL- AND- SUTURE" METHODE (OPERATIONSERFOLG UND ZUSTAND IN NACHFOLGENDEN LAKTATIONEN)

Über 100 schwarzbunte Kühe sind zwischen 1984 und 1991 wegen einer linksseitigen Labmagenverlagerung nach einer modifizierten "Roll- and-Suture" Methode in einer norddeutschen Tierarztpraxis operiert worden. Diese Arbeit beschreibt die Operationsmethode, den Operationserfolg und den Zustand der Patienten in nachfolgenden Laktationen. Die Untersuchung zeigt einen guten Erfolg der einfachen Operationsmethode, sofern die Labmagenverlagerung nicht durch weitere Krankheiten kompliziert wird. In den nachfolgenden Laktationen kommt es jedoch bei einer Anzahl von Probanden zu Rezidiven. Bei diesen Tieren konnte eine erneute Operation komplikationslos durchgeführt werden.