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Vaginal and Rectal Prolapse (Type II) in *Montbeliarde* Dairy Cow-Case Report

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Abstract: A *Montbeliarde* dairy cow, 10 years old and in an advanced state of pregnancy, showed a severe prolapse of the vagina and rectum of type II. Epidural anesthesia was performed as a first attempt to reduce viscera tenesmus. Also, a combined diuretic and anti-inflammatory drug was administered with the aim to resolve edema. The next day both protruded organs were reduced and fixed. The cow has given birth, after 72h following an injection of Cloprostenol, without any complication.

Key words: Montbeliarde Cow · Vagina Prolapse · Rectum Prolapse · Parturition-Induced

INTRODUCTION

Eversion and prolapse of the vagina, with or without prolapse of the cervix, occurs most commonly in cattle; the condition is usually seen in mature females in the last trimester of pregnancy. The major causal factors of this pathology include increased intra-abdominal pressure associated with increased size of the pregnant uterus and prolonged tenesmus [1, 2]. Rectum prolapsed may occur in animals of any age, breed, or sex. In cattle, the condition may be a result of prolonged tenesmus or increased intra-abdominal pressure due to bloat, trauma and act of parturition, dystocia [2] and vaginal or uterine prolapse [3].

Case Description: It is about a *Montbeliarde* dairy cow, 10 years old; weighing approximately 600 kg showing a good body condition score (BCS = 3). The cow was in an advanced state of pregnancy. The cattle breeding were composed of 10 dairy cows. Daily diet consisting of 6 kg of wheat bran and barley straw *ad libitum*. During our first visit, the Initial clinical examination of the cow revealed an important vaginal prolapse (type II) and rectal prolapse (type II). According to anamnesis the problem has occurred since 6h. Both protruded organ parts were appearing as a pink to red rosette with a severe edema (Fig. 1). The temperature was in mild hypothermia (36.7°C), pulse and respiratory rates were all within the reference values and mucous membranes were pink. Also, the animal has maintained a normal appetite.

Fig 1: Prolapsed mucous tissues type II of rectum and vagina with a severe inflammation

Caudal epidural anesthesia was performed, with 10ml of Lidocaine 2% (Xylocaine®, Astra Zeneca), in the first intent, to reduce viscera tenesmus. After that, attempts had been made to reduce the prolapsed tissues but without success, due to the severe edema; for that reason, a combined diuretic and anti-inflammatory drug (20 ml of Diurizone®, Vétoquinol) was administered with the aim to resolve it. In addition, a solution of 400 ml of calcium gluconate (Bioveine®, Biové) was administered intravenously as a treatment against a possible hypocalcaemia given the observed hypothermia. An additional possibility to facilitate the management of this pathology was to induce parturition, knowing that the cow was in the term of pregnancy. A synthetic

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Fig 2: Resorption of oedema after treatment

Fig 3: Post reduction of the rectal tissue with application of purse string suture

Fig 4: Labial vulva sutures after fixation of urinary catheter

prostaglandin analogue: 500 mcg of Cloprostenol (Estrumate ®, Shering-Plough Animal Health), was given intramuscularly.

In the second visit (24 hours later), the body temperature of the cow increased until 37.7 °C and all vital parameters were regular; also, the edema of prolapsed tissues had been partially reduced (Fig. 2). The animal presented an important urinary retention as a complication of exerting compression on urinary meatus. Then, we proceeded to empty the bladder urgently by installing a plastic catheter. Before initiating the management of complicated pelvic organs prolapse, we have proceeded to an epidural anesthesia; following, cleansing of the perineum and prolapsed tissues using a mild form of antiseptic tincture of iodine based compound. Both of the prolapsed tissues were gently pushed and quickly held in the pelvic cavity, after the onset of anesthesia within five minutes. Retention of the replaced rectum was made by a purse-string suture placed through the skin and deep fascia around the anus (Fig.3); using of a non-absorbable suture material. The retention of the vagina was performed with Strengthened sutures for shrinking the labia of vulva after a fixation of a urinary catheter (Fig.4). The calcium gluconate treatment was repeated with identical volume as done on the previous day.

72h after, labial vulva sutures were removed by the owner at first signs of labor and parturition occurred without any problem; with a live-calf born. At this moment, the body temperature of the cow increase to 38.7°C.

DISCUSSION

The inadequately nutrition management is commonly listed as a major factor contributing to the prevalence of vaginal prolapsed [1]. Feeding conduct, with high level of easily digestible energy of the wheat bran, responsible in the ruminal distention resulting from acidosis contributes to the formation of the higher intra-abdominal pressure; and on the other hand, the poor quality of the straw feeding. Both seem to be the major causal factors of this pathology. Also, the hypocalcaemia can be incriminated in this case [1, 4], given registered hypothermia. With regard to the rectal prolapse, also the increased intra-abdominal with the pressure brought about by the rapidly expanding of the uterus, are thus more likely to have precipitated the organ prolapse [3]. In the present case, we have opted for inducing calving because the cow was at the full term of pregnancy period [7]; that parturition had produced after 72h [5, 6]. Live calve was delivered without any external intervention and the both organs (vagina or rectum) remained in the pelvic cavity, as observed by Jeyakumar *et al.* [7]. However, the placenta was retained [5, 6].

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