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Clinical Management of a Complicated Case in a Parturient Cow-Case Report

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Abstract: A 6-year-old crossbreed cow has presented a bad health state 48h following manual removing of the retained placenta. The cow was in sternal recumbency with a several serious signs. Established diagnoses were: mastitis, left displacement of the abomasum (LDA), a possible milk fever and may be an occlusive syndrome. The clinical management of the case carried fourth visits; during which the animal received numerous medical treatments. In addition, it has been processed to the rolling method for LDA correction. The cow showed a small enhancement of its health state after the latest manipulation. After two months the cow recovered completely.

Key words: Crossbreed Cow · *Postpartum* · Concurrent Diseases · LDA · Rolling Method

INTRODUCTION

The crossbred cow is the principal component of herds in the smallholder farming in Western Algeria; it's resulting of crossing between local breed and imported dairy cow; commonly, the *Frisonne-Holstein* and the *Montbeliarde* breeds. The crossbreed cows are less productive than the dairy cattle, but more resistant to the harsh environment conditions (climate, feeding and diseases). However, these cows could be prone to *postpartum* metabolic and infectious disorders like the dairy cattle.

Left displaced abomasum (LDA) is an important disease of dairy cows that usually occur at the time of calving [1]. The aetiology is multifactorial, although abomasal hypomotility and dysfunction of the intrinsic nervous system are thought to play an important role in development of displacement or volvulus [2], combined with increased production of gas in the abomasum [3] or fluid [1]. LDA is a condition in which the abomasum is mechanically trapped in the left side of abdominal cavity [1]. Important contributing factors include hypocalcaemia and possibly hypokalemia, as well as concurrent diseases [3,4] as retained fetal membranes [4,5], mastitis and metritis; associated with endotoxemia [2,3]. Then, *peripartum* disorders are all interconnected [6]. Rolling is a conservative technique for LDA correction [7]; it requires labour and recurs in up to 60% of cases; that surgical method is the option preferred by most practitioners [8]. Then, occurrence of LDA is often underestimated in the crossbreed cows because of their reduced milking capacity.

Case Description:

1st Visit: A 6-year-old crossbreed cow, with 2.0 BCS, has calved since 28h and presented retained placenta (Fig.1). Clinical examination of the cow did not reveal any abnormalities and the fetal membranes were removed manually without difficulty. An Injection of 30UI of Oxytocin (Ocytokel®) and 40ml Amoxicillin (Amoxoil®) was intramuscularly administered.

2nd Visit: 48h after, the owner informed us that a serious problem has occurred in the cow. The animal was in sternal recumbency; complained of abdominal pain simultaneous with an unsuccessful defecation attempt and expelling translucent mucus with traces of blood. Also, as each inspiratory time the animal did complain. Furthermore, there was no milk letdown.

The clinical examination has shown a slight hypothermia (37.5°C); tachycardia (108 beats/ min); the eye mucous membranes were slightly congested, but those of the vulva were bluish-coloured. Also, the examination of udder detects mastitis in one quarter.

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Fig. 1: The cow in a good state, with retained membranes

Fig. 2: The cow after 48h in a bad health state

These symptoms have leaded us to doubts as maybe it's about an occlusive syndrome combined with a milk fever. The auscultation of bottom part of 9th intercostal space revealed a gas tinkling sounds; confirmed a left abomasums displacement (LDA).

Taking into account the critical condition state of the cow (Fig. 2); at first, we have chosen the conservative method by rolling for correcting the abomasums displacement. At the beginning the cow was in sternal recumbency, that we have cast her on the right side and pulled onto her back (Fig.3). After that, the cow was catched by its legs and jiggled, then quickly rolled onto her left side.

Therapy: We proceeded to administrate a calcium borogluconate solution by perfusion (500 ml of Biovène®); of cardiopulmonary stimulant drug (10 ml of Vétécardiol® by IV); glucocorticoids (20 ml of Colvazone®); hepatoprotective drug (20 ml of Methio B12®). Following therapy, we have assisted the animal to stand, but without success. After a few minutes, complaints disappear and a small quantity of dung with mucus was rejected. The cow stands up half an hour later.

Fig. 3: The rolling method steps:
(a) The cow casted in the right side;
(b) Pulled onto her back;
(c) Then rolled onto her left side.

Fig. 4: The total recovery of the animal two months later.

3rd Visit: Two days later, clinical examination discovers a persistence of all symptoms seen in the last visit. Also, LDA diagnosis was confirmed by hearing tinkling sounds between 9-10 ribs. Then, we proceeded to roll the cow a second time.

Therapy: At first, an infusion of antibiotic preparation (amoxicillin) was applied into the infected quarter. The treatment protocol consisted of: 20 ml of Méthio B12®, 10 ml of Lhiflunex®; non-steroidal anti-inflammatory drug, 40 ml of Amoxoil®; 30g of Rumicin polvo®; for stimulating digestive motility, 20ml of Hebabiol carnitine®; as a source of energy supply.

On the fourth day, the cow showed a significant improvement of its health status; recovered its appetite and defecated a small solid and liquid matter.

4th Visit: One week after the first LDA management, the animal shown a good reflex, the body temperature reached 38.8°C, eye and vulva membranes mucous were pink; but we noted the persistence of the tachycardia (100beats/min). Concerning the sound of displaced abomasums, it was heard in 8th intercostal space; it means that the organ was retracted to down.

Therapy: The treatment protocol was the same that conducted at the prior visit.

A few days later the cow recovered totally but the milk production remained quite limited. After 60 days of the appearance of the complicate pathology case, the cow remained in good state (Fig.4) and has not shown any trouble; its diet consisted only of grazing on young barely plants.

DISCUSSION

Despite the fact that dairy cows are highly exposed to metabolic disorder and infectious diseases at *peripartum* period [6], the crossbreed as well can develop this kind of disease. According to Sexton *et al*. [4], only 5% of LDA studied cases have occurred during the first three days following parturition. Constable *et al*. [9] reported that 57% of LDA have been diagnosed within 2 weeks and 80% of cases during the 1st month of *postpartum*. Furthermore, Geishauser [10], affirm that LDA is strongly linked with farming management and more particularly with feeding. In this pathological case, it seems that all important contributing factors of the LDA; include high concentrate with low fiber ration, as reported by Scott *et al.* [8]. Moreover, the nutritional factor, in our context, seems to be linked with the season effect, because in autumn and winter the cows were confined and fed only by concentrate, considering the lack of fodder crops. As well as, concurrent diseases, as retained fetal membranes; mastitis and a possible hypocalcaemia [2,6] were presents in this case. On the other hand, the observation of severe symptoms (tachycardia, abdominal pain, bluish-coloured mucosa of the vulva and expelled mucus) led us to think it was about an occlusive syndrome [11]; involving a poor vital prognosis.

Our recourse to the rolling technique for correction LDA was justified by the critical condition state of the cow; it avoided surgery. Despite the facts that rolling technique takes time and requires labour [8] and present, also, a high frequency of cases recurrence [2]. So, rolling technique is a conservatory classical method which must be attempted to manage the LDA, especially when the state of the animal appears unable to withstand surgical intervention. In last, appropriate farming techniques and proper management of dietary changes can prevent these disorders [6].

In conclusion, the crossbreed cows can be exposed, like dairies, to the postpartum disorder. So, practitioners need to think about the LDA when they encounter complicated cases in parturient crossbreed cows. Then, it is always helpful to resort to the rolling method as a solution this problem.

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