

SECTION 7.

VETERINARY SCIENCES

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CLINICAL CASE OF UTERINE PROLAPSE IN A COW DURING THE POSTPARTUM PERIOD

The postpartum period in cows is one of the most critical stages in herd reproduction, since obstetric and gynecological complications occur most frequently during this time. One of the most dangerous pathologies is uterine prolapse, which is considered an emergency condition requiring urgent veterinary intervention [1], [3]. This pathology poses a threat not only to the animal's subsequent reproductive function, but also directly to its life, as it may be accompanied by shock, hemorrhage, tissue trauma, contamination, and necrotic changes [1], [4]. In veterinary practice, uterine prolapse is regarded as a true urgent condition in which the timeliness of care is crucial for the prognosis [1].

Postpartum uterine prolapse in cows usually develops shortly after calving, when the cervix remains open and the tone of the uterine musculature is reduced. During this period, the everted uterus may completely protrude through the vulva. The development of this pathology is associated with uterine atony, excessive straining, weakness of the ligamentous apparatus, complicated parturition, retained placenta, as well as metabolic disorders, in particular hypocalcemia [1], [3]. According to the MSD Veterinary Manual, hypocalcemia in the early postpartum period reduces muscle contractility and is considered one of the important factors that may contribute to uterine prolapse [2]. In addition, hypocalcemia is also associated with the risk of retained fetal membranes, metritis, and other postpartum complications [2], [3].

Clinically, this pathology is manifested by the presence of a large everted organ protruding beyond the vulva [1]. The surface of the prolapsed uterus rapidly becomes contaminated, dries out, swells, and is easily traumatized, especially if the animal is lying down, attempting to stand up, or moving [1], [4]. Prolonged exposure of the uterus outside the abdominal cavity is dangerous because it may lead to severe edema, fissures, hemorrhages, vascular rupture, and secondary infection [1], [4]. In

severe cases, thromboembolic complications, rupture of the uterine artery, shock, and death may occur [1], [4]. The literature also describes that, in some cases, other organs may be displaced into the everted uterus, which further complicates treatment and worsens the prognosis [1].

The paper presents a clinical case of postpartum uterine prolapse in a cow recorded at farm X. The analysis took into account the general condition of the animal, the nature of changes in the prolapsed organ, the degree of its contamination, edema, and trauma, as well as the main approaches to emergency obstetrical care.

During the clinical examination of the cow in the postpartum period, complete uterine prolapse was diagnosed. The animal under study was a Black-and-White dairy cow. The pathology was detected in the early postpartum period, shortly after calving. According to the case history, parturition was complicated and was accompanied by the development of complete uterine prolapse. At the time of clinical examination, the general condition of the cow was depressed. The animal's condition was assessed taking into account body position, response to stimuli, pulse rate, respiration, the condition of the mucous membranes, and the severity of straining. The cow remained in a recumbent position for a prolonged period, which increased the risk of additional contamination and trauma to the prolapsed organ (Fig. 1).



Fig. 1. General condition of the cow during the clinical examination in a case of uterine prolapse

During the external examination, the degree of uterine contamination and edema, the presence of mucosal lesions, retained fetal membranes, and signs of hemorrhage were assessed (Fig. 2.). According to the literature, the first and fundamentally important step in treatment is the prompt repositioning of the uterus after prior cleansing, reduction of edema, and elimination of factors preventing its replacement [1], [4]. Before repositioning, epidural anesthesia is recommended to reduce straining, and in the presence of marked edema, the use of hypertonic solutions or sugar is advised to decrease swelling [1].



Fig. 2. General view of uterine prolapse in a cow during the postpartum period before veterinary treatment

Visual examination of the prolapsed uterus revealed marked tissue edema, hyperemia of the mucous membrane, contamination with organic matter, and signs of mechanical irritation (Fig. 3.). This condition requires immediate obstetrical intervention, since prolonged exposure of the uterus outside the birth canal leads to increased edema, drying of the mucous membrane, and a poorer prognosis [1], [4].

Treatment of postpartum uterine prolapse in a cow should be comprehensive. After restraining the animal, the prolapsed organ is carefully cleaned of mechanical contaminants, and tissue viability as well as the presence of traumatic lesions are assessed [1]. According to the recommendations of the MSD Veterinary Manual, uterine reposition should be performed by gradual, even pressure, beginning at the cervical region or the site of invagination, with pressure applied by the palm or fist rather than the fingertips in order to avoid perforation of the uterine wall [1]. After replacement, complete extension of both uterine horns must be verified, since residual invagination may sustain straining and provoke recurrent prolapse [1]. In practice, oxytocin is used to restore uterine tone, and calcium-containing solutions

are administered when hypocalcemia is suspected [1], [2]. Antimicrobial agents, anti-inflammatory drugs, and supportive therapy are also indicated [1], [3]. In cases of severe tissue trauma or necrosis, the prognosis is guarded, and in some severe cases uterine amputation may be the only way to preserve the animal's life [1], [4].



Fig. 3. Local changes in the prolapsed uterus: edema, contamination, and trauma to the mucous membrane

In the present case, after the appropriate preparatory measures had been undertaken, an attempt was made to provide emergency obstetrical care. However, due to the severity of the animal's clinical condition, pronounced trauma and contamination of the prolapsed organ, as well as the development of severe postpartum complications, the cow could not be saved. The fatal outcome of this clinical case demonstrates the high danger of uterine prolapse and the critical importance of timely veterinary intervention [1], [4].

The presented clinical case confirms that uterine prolapse in a cow is an emergency obstetrical pathology requiring immediate and professional intervention [1], [3]. The unfavorable outcome in this case indicates that the prognosis largely depends on the time elapsed from the onset of prolapse to the provision of care, as well as on the degree of trauma, infection, and edema of the prolapsed organ [1], [4]. Therefore, timely cleansing, reduction of edema, proper repositioning technique, and restoration of uterine tone determine the animal's chances of survival [1]. At the same time, the occurrence of this pathology indicates the need for a deeper analysis of risk factors within the farm, including monitoring the course of calving, the metabolic status of animals during the transition period,

and the prevention of hypocalcemia [2], [3]. Contemporary sources emphasize that postpartum disorders in cows are not only a clinical but also an economic problem, as they negatively affect reproductive performance, the length of the service period, and the overall productivity of the herd [3], [4].

Prevention of uterine prolapse in cows should primarily be aimed at avoiding postpartum uterine atony and metabolic disorders [1], [3]. Important measures include balanced feeding of dry cows, control of mineral metabolism, timely prevention and correction of hypocalcemia, appropriate obstetrical supervision during calving, prevention of excessive trauma to the birth canal, and timely treatment of retained placenta and postpartum inflammatory processes [2], [3]. Since hypocalcemia is associated with the risk of uterine prolapse, preventive measures during the transition period are important not only for metabolism but also for reducing the incidence of obstetrical complications [2].

Conclusions. Thus, uterine prolapse in a cow during the postpartum period is a severe emergency pathology that poses a serious threat to the animal's life and its subsequent reproductive function. The main risk factors include reduced uterine tone, complicated parturition, and metabolic disorders, primarily hypocalcemia. The presented clinical case with a fatal outcome confirms the need for immediate obstetrical intervention in cases of uterine prolapse in cows, since delayed assistance or severe injury to the prolapsed organ drastically worsens the prognosis for the animal's survival. The effectiveness of treatment is determined by the timeliness of veterinary care, the correctness of the repositioning technique, and the completeness of subsequent therapy. The practical significance of this pathology underscores the need for early diagnosis, rapid intervention, and appropriate prevention of postpartum complications in cows.

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