



MANAGEMENT OF PLACENTAL RETENTION IN BALINESE CATTLE IN SOREANG VILLAGE, MAPPAKASUNGGU SUB-DISTRICT, TAKALAR REGENCY

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Abstract

The livestock sector is one of the most developed sectors by the Indonesian people, including the people in Takalar Regency. One of the reproductive disorders in livestock that is often found in Takalar Regency is placenta retention. This disease has a fairly clear sign that some of the fetal membranes hang out of the vulva 12 hours or more after normal partus, abortion or dystocia. On 18 May 2024, Dg. Tole, the owner of a five-year-old female Balinese cow from Soreang Village, Mappakasunggu Subdistrict, Takalar District, reported the condition of his cow where 24 hours after giving birth the placenta of the cow had not come out. The cow had a Body Condition Score (BCS) of 3/5 and gave birth to a Brahman bull calf. The methods of diagnosis were history taking, signalling and physical examination. The results of the physical examination found mucus mixed with blood coming out of the vagina and on intravaginal palpation examination found cotyledons and caruncula still attached in the uterus. The cow was diagnosed with placental retention due to dystocia. Treatment was carried out by manual removal and administration of antibiotics, anti-inflammatory drugs, and supportive therapy.

Keywords: *Bali Cattle, Caruncle, Cotyledon, Manual Removal, Placental Retention*

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Introduction

The livestock sector is one of the most developed sectors by the Indonesian people. Indonesia's land area of around 1,922,570 km² is very supportive of the community to develop livestock business because it requires a large area of land. In addition to the large land area, Indonesia's climate is also very supportive of livestock business development because in a tropical climate each year will experience the rainy season and summer, making it very easy to fulfil forage feed and water for livestock business. One of the provinces with the largest number of livestock in Indonesia is

South Sulawesi Province with approximately 1,434,999 livestock in 2017. This makes South Sulawesi the third province with the largest number of livestock after East Java and Central Java. The livestock business in South Sulawesi has enormous potential for economic growth because it has been a hereditary business carried out by the community (Martini & Wandu, 2019).

One of the regions in South Sulawesi with a large number of cattle is Takalar Regency. Takalar District is located in the southern part of Makassar city which is approximately 40 km from Makassar city. The livestock sector has great potential in Takalar District, which can be seen from the beef cattle population that continues to increase every year. Based on data from the Livestock and Animal Health Service Office of South Sulawesi Province, Takalar District in 2020 had 34,073 beef cattle, 2,925 buffaloes and 799 horses. The increase in beef cattle population has great potential in the implementation of integration system. The grazing technique applied by farmers in Takalar Regency is still carried out traditionally and with a semi-intensive maintenance system, where in the morning the livestock is grazed, then in the afternoon before night the livestock will be returned to the cage. The feed given also depends on the availability of forage around the environment (Lestari, 2023).

Traditional farming methods such as those used by farmers in Takalar Regency are generally carried out because most livestock farming is a side business with limited costs so that farmers cannot make appropriate drums, feed properly and control animal health properly which directly results in the emergence of various kinds of health problems in livestock. One of the health problems that are commonly found in livestock farming, especially large livestock, is reproductive disorders including cases of placental retention. The incidence of placental retention in animal husbandry can reach 4-18% of the number of partuses (Cahyo *et al.*, 2021).

Placental retention is a condition where the physiological detachment of the placenta from the fetus-mother (fetal-maternal) fails to occur, the placenta remains in the cow's uterus for more than 12-24 hours postpartum. Consequently, if this case is not handled appropriately, it will cause a decrease in reproductive efficiency ranging from increased services per conception, decreased fertility rates to calving days and longer lambing intervals. The highest economic loss due to placental retention is caused by low fertility and decreased milk production (Rohmah *et al.*, 2023).

Based on the explanation above, it is known that health problems in livestock including reproductive disorders, one of which is the case of placental retention, are directly related to the maintenance management applied by farmers. This causes considerable economic losses for farmers which have an impact on reducing farmer income. This final project is expected to provide knowledge to the author and the readers.

Materials and Methods

Sample Collecting Method

The preparation of this final project uses a descriptive scientific writing design. The writing of this final project provides a description of placental retention experienced by Balinese cows. This observation was conducted in the field located in Soreang Village, Mappakasunggu Subdistrict, Takalar Regency. The observation lasted for 3 days, on 16-18 May 2024.

Tools and Materials

Tools: bucket, gloves, Stethoscope, rope and thermometer.

Materials: water, biosan, colibact bolus, colibact injection, dexamethasone, mask, sunlight, and vitamin ADE.

Procedures

General Examination: A general examination is conducted upon arrival at the site. In the general examination, anamnesis was taken and questions were asked to the farmer regarding the signal data. The data taken included animal identity (age, pregnancy history and sex) and the patient's condition in the last 2 days after parturition.

Physical Examination: Physical examination is performed by inspecting, palpating and checking the vital signs of livestock.

Data Analysis

Data analysis was performed using descriptive analysis. The descriptive data presented came from patient status data in the form of history, symptoms, physical examination, diagnosis, treatment and medication.

Results

Anamnesis

On 18 May 2024, Dg. Tole, the owner of a five-year-old female Balinese cow from Soreang Village, Mappakasunggu Subdistrict, Takalar District, reported an incident to the veterinarian regarding the condition of his cow. Based on information from the farmer, the cow was suffering from dystocia and up to 24 hours after giving birth the placenta had not come out. The cow had a Body Condition Score (BCS) of 3/5 and gave birth to a Brahman breed male calf. According to the owner, this was her fourth pregnancy. Previous pregnancy history, the parturition process always went normally. During the growth period until the pregnancy, the cow was always housed. The feed given was forage in the form of elephant grass.

Sinyalement

Name/No *ear*tag: NN/125

Type : Cattle

Breed : Bali

Weight : 250 kg

Age : 5-year-old

BCS : 3/5

Specific sign : The scar on the thigh
Owner : Dg. Tole

Physical Examination

Physical examination was performed directly by inspection and palpation of the cow's body, especially the reproductive organs. On physical examination, the cow was weak, lost appetite, with mucus mixed with blood coming out of the vagina, the cow also had pyrexia, tachycardia and tachypnoea where the temperature was 39.7°C, heart frequency was 120 times/minute and breathing frequency was 60 times/minute. Palpation examination was performed using a lubricated glove inserted into the vagina to evaluate the contents. Palpation of the vagina revealed the presence of cotyledons and caruncula still attached in the uterus.



Fig 1. Retention of the placenta cases in Soreang Village, Mappakasunggu Subdistrict, Takalar Regency (Personal documentation)

Diagnosis

Diagnosis is based on the results of history taking and clinical signs found. Based on the results of the anamnesis obtained from the stable officer and an inspection physical examination of the mother cow, the diagnosis was that the cow looked lethargic, her appetite had decreased, her fur looked dull and there was a little placental discharge but it did not hang and had not come out after parturition. The cow was diagnosed with placental retention which occurred due to dystocia experienced by the cow.

Management and Treatment

Treatment was carried out by manual removal, injectable and intrauterine antibiotics, anti-inflammatory and supportive therapy. Manual removal technique was performed by performing aseptic intravaginal palpation to separate the cotyledons and caruncula manually. Injectable antibiotics were given in the form of Colibact Inj. and intrauterine bolus antibiotics in the form of Colibact Bolus. Colibact contains a combination of sulfadiazine and trimethoprim which is indicated to protect the uterus against bacterial infection due to placental retention. Anti-inflammatory therapy was given in the form of Glucortin with dexamethasone to treat the inflammation that occurred. Supportive therapy was given in the form of Biosan TP used to improve muscle tone and vitamin ADE to improve the immune system and repair damaged cells.

Discussion

A farmer (Dg. Tole) reported on the condition of his cow after calving. The cow is a female Balinese cow, five years old, had difficulty giving birth (dystocia) and the placenta had not come out until 24 hours after giving birth. During physical examination, it was found that the cow appeared weak, lost appetite, with mucus mixed with blood coming out of the vagina, the cow also had pyrexia, tachycardia and tachypnea. Physical examination results showed the cow had a temperature of 39.7°C, heart frequency of 120 beats/minute and respiratory frequency of 60 beats/minute. According to Frans *et al.* (2020), normal body temperature of Balinese cattle is 38.1°C-39.3°C, normal respiration frequency of Balinese cattle is 21-33 times/minute and normal pulsus frequency of Balinese cattle is 73-102 times/minute.

Palpation examination was performed using a lubricated glove inserted into the vagina to evaluate its contents. Palpation of the vagina revealed the presence of cotyledons and caruncula that were still attached in the uterus. According to Risnawati (2021), some clinical signs that are quite clear in cows experiencing placental retention are that some of the fetal membranes hang out of the vulva 12 hours or more after normal partus, abortion or dystocia, depression, no appetite, increased body temperature, increased pulsus frequency and decreased body weight. Another symptom that appears is the presence of fetal membranes in the cervix.

The results of the anamnesis obtained from the farmer and the results of the physical examination by inspection of the mother cow showed that there was a little placental discharge but it did not hang and had not come out after parturition. According to Abdisa (2018), not all clinical signs of placental retention are characterised by the discharge of the hanging placental membrane. Placental retention has symptoms of placental membranes hanging outside the genitals and some remain in the uterus or vagina.

Based on the signals, history and physical examination results, the cow was diagnosed with placental retention that occurred due to dystocia experienced by the cow. This is in accordance with the theory of Cahyo *et al.* (2021), dystocia or difficulty giving birth causes fatigue of the cow's uterine muscles due to prolonged uterine contractions. Dystocia cases can be a risk factor for placental retention because the difficult parturition process can cause damage to the uterus or reproductive system of the cow, which in turn can affect the ability of the placenta to detach properly after parturition. In addition, dystocia can also cause trauma to the cow's reproductive tissues, which affects the uterus' ability to expel the placenta after parturition.

Treatment measures are carried out by manual removal, injectable and intrauterine antibiotics, anti-inflammatory and supportive therapy. Handling carried out in cases of placental retention in Balinese cows in Soreang Village, Mappakasunggu Subdistrict, Takalar Regency is carried out with manual removal techniques by performing aseptic intravaginal palpation to separate the cotyledons and caruncula manually. After all the links between the cotyledons and caruncula are loose, the

placenta can be pulled out and then give intrauterine antibiotics. The drug is inserted intra uterus through the vulva, namely colibact bolus which is a combination of sulfadiazine and trimethoprim which is indicated to protect the uterus against bacterial infection due to placental retention. According to Martini & Wandu (2019), the purpose of handling cases of placental retention is to remove the placenta completely and minimise the occurrence of secondary infections such as endometritis. This treatment will be effective for recovery if handled quickly. In general, manual removal and intrauterine antibiotics have been used to treat placental retention.

The use of bolus antibiotics containing sulfadiazine and trimethoprim is commonly used for placental retention therapy in dairy and beef cattle to protect the uterus from bacterial infection. Bolus antibiotics can be given intra vaginally and orally at a dose of 2-4 boluses (Ratnani *et al.*, 2020) Furthermore, the cows were given medical treatment by intra muscular injection (IM) Biosan TP 8 ml, Colibact Inj. 8ml and Dexamethasone 5ml. According to Munir (2022), Biosan TP is used to stimulate the body in general, especially in muscle tone due to weakness after calving. Furthermore, the administration of antibiotics Colibact Inj. 8ml which aims to prevent infection in the digestive tract and urinary tract in the beef cows. Dexamethasone 5ml intra muscular is given to treat inflammation that occurs, dexamethasone is one of the corticosteroid drugs that belong to the synthetic glucocorticoid group which has anti-inflammatory and immunosuppressive effects.

Intramuscular administration of 6ml ADE multivitamins is given to improve the immune system and repair damaged cells, especially in the reproductive system. According to Plumb (2018), vitamin A metabolites affect ovarian follicular growth, uterine environment and oocyte maturation. Vitamin A deficiency has a direct influence on the structure and function of the pituitary glands, gonads and uterus. Vitamin E functions as an intracellular antioxidant that can maintain the integrity of the phospholipid membrane. Vitamin E deficiency can cause damage to cell membranes and disrupt the process of steroid synthesis, prostaglandins, sperm motility and embryo development, including fetal membrane retention. The function of vitamin D in cattle is to strengthen bones because vitamin D helps the absorption of calcium by the body.

Client Education

After administering the treatment, a control was conducted in the first week. The dam had normal activity and good appetite, showing no signs of weakness. To avoid cows experiencing recurrent placental retention, farmers are advised to pay attention to good feeding to avoid nutritional deficiencies, exercise and not always be stabled to prevent dystocia, and other health problems that can trigger placental retention. The principle of prevention in cases of placental retention is to optimise the immune system in the peripartum period through improved management of feed consumption. Placental retention can be reduced by preventing hypocalcaemia and adequate Se levels in cows. Balanced nutrition of Ca and P in the diet, intramuscular Se administration, and vitamin A injection with β -carotene injection in the prepartum period should be considered to reduce the incidence of placental retention. Factors that should be avoided are high body condition score at delivery,

hypocalcaemia, and a diet deficient in vitamins A, D, E, selenium, iodine, and zinc. Therefore, to prevent placental retention, adequate energy, protein, Se, Vitamin D and E can be provided in the diet.

Conclusion

Placental retention occurred in a Balinese cow in Soreang Village, Mappakasunggu Subdistrict, Takalar District. The cow showed symptoms of weakness, loss of appetite, with mucus mixed with blood coming out of the vagina. Manual removal through intravaginal palpation and intrauterine administration of antibiotics and vitamins were performed.

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