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Pregnancy toxemia associated with Dystocia in a Nellore Brown Ewe

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ABSTRACT

A Nellore brown ewe was presented to the clinic with the history of off feed, dullness, depression, lethargy and with completed gestation. On gynaecological examination fetus was present in the pelvic cavity and closed cervix was noticed. Laboratory examination of samples revealed reduction in serum glucose and albumin levels, elevated serum BUN, creatinine levels, presence of the ketone bodies in the urine, reduction in the glucose levels in the CSF and presence of strongyloid spp. eggs and monezia spp. eggs in the dung samples. Based on the history, clinical signs and laboratory findings the case was diagnosed as pregnancy toxemia and treated with 50% dextrose, 5% DNS and Ringers lactate iv along with symptomatic therapy. After 36 hours of treatment, animal suffered from dystocia and fetus was in anterior presentation and dorso pubic position. Under local anesthesia dystocia was relieved to deliver a live male lamb.

Key words: Dystocia, Hypoglycemia, Nellore Brown ewe, Pregnancy toxemia

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INTRODUCTION

Pregnancy toxemia is a metabolic disease of pregnant ewes which causes significant economic loses to sheep industry due to maternal and fetal death. Without treatment case fatality rate can approach 100%. Pregnancy toxemia is a disorder characterized by hypoglycemia and hyperketonemia resulting from incapacity of the animal to maintain adequate energy balance. Negative energy balance during late pregnancy in ewes is an important cause of pregnancy toxemia [1]. Symptoms of ketonemia include depression, anorexia, weakness, staggering gait, apparent blindness, recumbency, coma and death in severe cases [2]. Affected ewes usually become recumbent in 3-4 days and commonly have difficulty in lambing. Treated ewes that recover may have dystocia, die during parturition or develop retained placenta and metritis [3]. The present report records a case of pregnancy toxemia associated with dystocia and its successful management in a Nellore Brown ewe.

Case History and Observations

A Nellore brown ewe of fifth parity was presented to the Teaching Veterinary Clinical Complex, College of Veterinary Science, Proddatur with the history of off feed, dullness, depression, lethargic, dropped head, aimless walking and grinding of teeth. It was reported that the animal was full term pregnant and passed white thick mucus from vagina previous day afternoon with occasional straining. It had the history of reduction in grain consumption followed by water intake from the last 3 days. Ewe had opisthotonos condition with sternal recumbence at the time of presentation. Clinical examination revealed rectal temperature of 101.8^0 F, heart rate (92/min), respiratory rate (32/min), gasping, dehydration and torticollis was observed (Figure-1). On per rectal examination with fingers fetal extremities found in pelvic cavity and per vaginal examination revealed a tightly closed cervix. Peripheral blood

smears, whole blood with EDTA, whole blood without EDTA for serum, CSF, feacal samples and urine were collected for laboratory examinations.

Haematology did not reveal any significant abnormalities. Serum biochemical examination revealed hypoglycemia (38 mg/dL), reduction in serum albumin levels (1.8 g/dL), normal total protein (6.2 g/dL), reduction in calcium levels (8.9 mg/dL), increased SGOT levels (324 U/L), BUN (32 mg/dL) and creatinine levels (1.9 mg/dL). Examination CSF glucose (16 mg/dL) also noticed with glucometer. Urine examination revealed presence of ketone bodies. Hypoglycemia is not a consistent finding in pregnancy toxemia so, to confirm the condition, CSF glucose level was estimated. Faecal samples revealed presence of *Strongyloides spp.* (++++) and Moniezia *spp.* eggs (++). Based on the history, clinical findings and biochemical values obtained, the case was diagnosed as pregnancy toxemia.

Figure-1: Ewe suffering with pregnancy toxemia

Figure-2: Delivered faetus after dystocia

Treatment and Discussion

Ewe was treated with 100 ml of 50% dextrose iv, 5% DNS (@10ml per kg body weight) IV and Ringers lactate (@10ml per kg body weight)iv. Calcium injection (20 ml of calcium Sandoz), Inj. Nerovet (3 ml), inj. Dexamethasone (20 mg), Fentas plus (2 tablets) were given. By the evening ewe was able to stand, became active and started taking feed. The owner advised to repeat the treatment next day along with oral supplementation of glycerol (60 ml, PO, BID) and instructed to get the animal at the time of lambing if necessary. Again the ewe was presented after 36 hours with the complaint of dystocia. Straining was observed from past two hours. Per vaginal examination revealed dilated cervix and fetus was in anterior presentation and in dorso pubic position. Traction was applied and live male fetus was delivered after giving 2% lignocaine as epidural anesthesia (Figure-2). Inj. Enrofloxacin (@ 5 mg /Kg Body weight), DNS 5 % (500ml I/V) inj. Melonex (@0.5 mg/Kg Body weight) and the treatment continued for next 4 days.

Hypoglycemia and hyperketonemia are the primary metabolic disturbances in ovine ketosis. The precipitating causes are dietary deficiencies of net energy along with the increased demand for energy in the later part of pregnancy. The most important etiological factor in pregnancy toxemia is a decline in the plane of nutrition during the last two months of pregnancy. Because of impaired hepatic function ewes are predisposed to the disease. Ewes are unable to carry gluconeogenesis leading to hypoglycemia and accumulation of ketone bodies. If ewes do not receive at least half of the required energy during this period, fat depots are mobilized in large quantities [4]. Ketones are toxic byproducts of excessive breakdown of body fat to compensate for the negative energy condition. The serum Beta Hydroxybutyric (β-HB) concentration is the final product of fat metabolism and is the predominant circulating ketone body [5].

Present observed clinical signs in accordance with the Al- Qudah, who observed the symptoms of ketonemia in ewes includes depression, anorexia, weakness, staggering gait, apparent blindness, recumbency [2]. Due to non-specific clinical symptoms, the presence of pregnancy toxemia in ewes can only be determined by elevated plasma ketone body concentrations, i.e. of β-HB [6]. But in the present study serum glucose levels, CSF glucose levels, urine ketone bodies were recorded to confirm the disease. Hypocalcemia was seen as a secondary complicating factor with pregnancy toxemia and ketosis which was observed in the present study [7]. Possible risk factor for development of the condition in the present case may be poor quality of ingested energy, lack of good body condition and high parasite load with single large fetus. This finding accordance with the previous workers Rook and Bani Isail [1,8]. Present case was treated with oral administration of intravenous glucose, glycerol and injection of dexamethasone to induce parturition was in accordance with the Radostits [3]. Brozos et al. stated that an immediate and accurate diagnosis with successive treatment may increases the survivability [7]. In the present case was early presentation to the clinic with proper diagnosis it was survived.

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