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A Case of Meningocele in an Akkaraman Lamb

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Abstract

A meningocele case has been observed on a one-day-old male Akkaraman lamb, brought to the Surgery Clinic, Animal Hospital and University of Fırat. When we examined the animal, there was a fluctuating mass about 15 cm diameter size in the occipital area. We decided to surgical operating to this case of meningocele which is rare and usually does not respond favorably to treatment. Under a general anesthesia firstly liquid was drained out from the mass by using cannula. Then the excess skin piece was removed with the incision in a controlled manner. Approximately 2 mm diameter hole was closed which opened into the medullary canal by using sutures. At the same time, processus spinosus of first cervical vertebrae was seen that the 2 cm longer than normal. After cutting the excess bone part, the head skin was sutured with using 2-0 suture. The patient received parenteral antibiotics for 5 days. After 2 months the operation, it was observed that he continued his life in a very healthy. This case was thought to report because it is a rarely seen type of anomaly in lamb and respond favorably to the operation in this case.

Keywords: Meningocele, Lamb, Surgery

INTRODUCTION

Structural and functional disorders that develop in the offspring due to various causes in the fetal and embryonic period are called birthal anomalies (1). Although the causes of congenital anomalies seen in ruminants cannot be determined precisely, it has been reported that these anomalies are caused by genetic factors, mutations, chromosome anomalies, infectious agents, environmental factors and mineral salts and vitamin (A, D, E) deficiency, hormonal factors and physical reasons or combinations of these factors (2-4) Although congenital anomalies are few in number, they are of great importance because they lead to significant economic losses and are genetically transferred to new generations (5).

Meningocele is the protrusion of fluidfilled meninges through a defect in the cranium (crania bifida) (6,7). Also the herniation of cranium meninges if it contains brain tissue together, it is called meningoencephalocele(8-10). Meningocele is a rare case of central nervous system anomalies are rarely found in cattle and cows, but pigs and cat are so rarely encountered (11).

Most of the defects in animals are under the control of autosomal recessive genes (12, 13). Recessive genes are transmitted from generation to generation through normal-looking parents (14). So that reason, even if they live, congenital anomaly animals and their parents should not be used as for breeding and must remove from the herd (15).

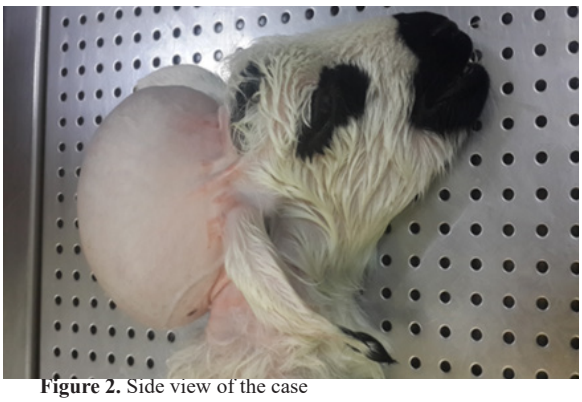

Figure 2. Side view of the case

MATERIALS AND METHODS

The study material was a one-day-old male Akkaraman lamb, brought to the Surgery Clinic, Animal Hospital, and University of Fırat. In the general examination, the vital parameters of the lamb were normal. The lamb could not hold the head in the normal position but there was no any standing problem in the lamb.

Figure 1. Front view of the case

When we examined the animal, there was a fluctuating mass about 15 cm diameter size in the occipital area and we decided to take the operation with the approval of the patient's owner. The lamb's physical examination was suitable for the operation. The general anesthesia of the lamb was given by injections of xylazine HCl (0.1 mg / kg, im) and ketamine HCl (4 mg / kg, im). After the shaving of the mass it was sterilized with 10% povidone iodine before the operation. The lamb was placed in lateral recumbency and the needle was inserted through the skin into the fluctuating mass. The fluid was drained slowly and intermittently for prevent to the sudden decline of the increased cerebrospinal fluid pressure.

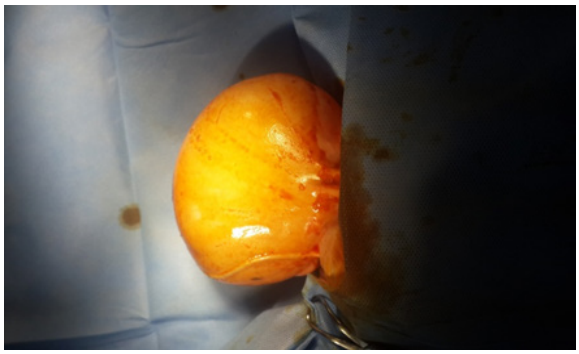

Figure 3. Pre-operative appearance of the mass

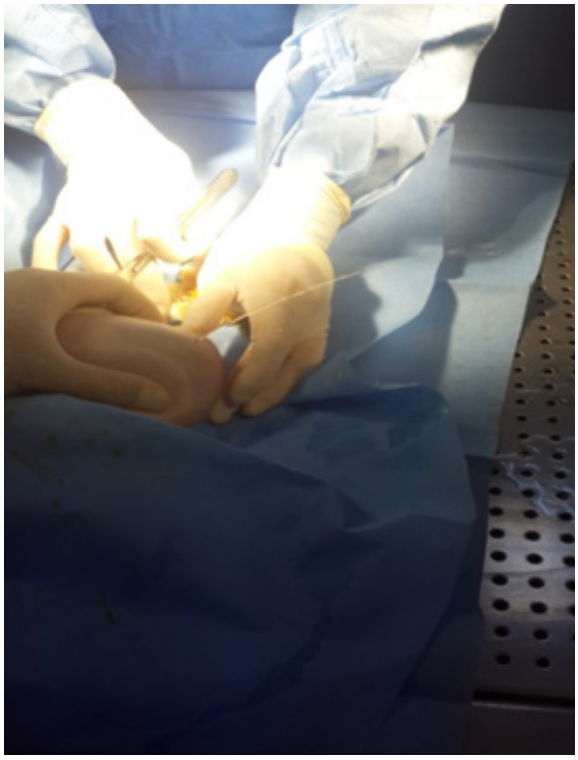

Figure 4. Drainage of the cerebrospinal fluid

After the draining of the fluid the sac was removed from the skull by using insicion. And then there was an approximately 2 mm diameter hole was seen which is opened into the medullary canal. This hole was closed with sutures using polyglactin 2/0 suture material.

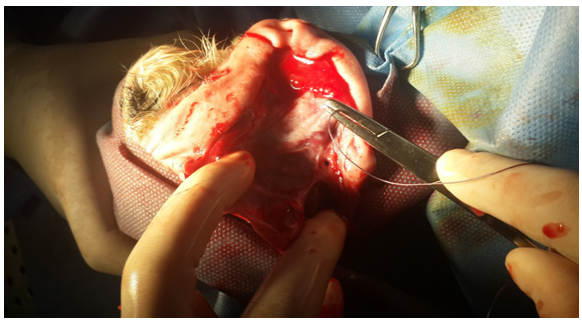

Figure 5. Closure of the hole which is opened into the medullary canal by using suture

At the same time, processus spinosus of first cervical vertebrae was seen that the 2 cm longer than normal. After cutting the excess bone part, the head skin was sutured with using 2-0 suture. The patient received parenteral antibiotics for 5 days. After 2 months the operation, it was observed that he continued his life in a very healthy. This case was report because it is a rarely seen type of anomaly in lamb and respond positive to the operation in this case.

Figure 6. The excess skin and bone part

DISCUSSION

Yedegari and friends (7) reported that meningocele case a three days old male lamb was brought to their clinic with a large fluid-filled swelling at mid-parietal region having cyst-like consistency. And the size of the swelling was approximately 6cm×8cm and the overlying skin was normal. But they reported that they didn't treat this animal due to the lack of an expert surgeon, surgical treatment applied to the lamb failed.

Özaydın and friends (15) reported that meningocele case one day old male Morkaraman lamb brought to their clinic with 14 cm height sac that covered by hairs on the cranium. And they reported that they operated this case and lamb has no operative or postoperative complication.

In our case we decided to surgical operating to this meningocele and the patient respond positive to the operation in this case.

Figure 7. Photo taken 1 month after surgery, sucking his mother

Figure 8. Two month after surgery from the back and front sides

RESULT AND CONCLUSION

There were no complications observed in both operative and postoperative periods, it was concluded that positive results could be obtained from operatively treated meningocele cases.

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