CASE REPORT
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TRAUMATIC PULMONARY LOBE EVENTRATION IN A DAY-OLD PIGLET AND ITS SURGICAL MANAGEMENT

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ABSTRACT

Lung eventration is a rare condition in animals. A day-old piglet was presented with an eventration of lung lobe on the left ventral thoracic area following bite by the dam. The condition was diagnosed as extra-thoracic inter-costal lung eventration. The condition was surgically corrected following aseptic technique. The piglet recovered uneventfully.

Keywords: Piglet, Eventration, Pulmonary lobe, Surgical correction

INTRODUCTION

Lung eventration is a very rare and least reported condition in animals. Moncada *et al.*, (1996) defined herniation of lung as protrusion of the lung parenchyma beyond the thoracic cavity boundaries. Lee (2017) concluded in his study that cranial lung herniation was a common finding in aged dogs. Lung hernia can be classified as cervical, thoracic or diaphragmatic according to its location and according to etiology as congenital or acquired which is also called as spontaneous or traumatic (Morel-Lavallee, 1847). In humans, most of the cervical lung hernias occur due to penetrating chest trauma or surgery, chest wall neoplasms or chest wall infections (Lee, 2017).

CASE HISTORY AND OBSERVATIONS

A female Duroc piglet, born around 10 hours back was presented with a pink coloured soft tissue protruding through the skin at the fourth intercostal space near to the ventral thoracic region on the left side. On close examination, the pink coloured soft tissue was revealed to be a portion of lung lobe (Fig. 1). According to the owner, the dam had bitten the piglet after farrowing. The affected piglet was having an increased heart rate and respiration rate. The animal was reluctant to move. The portion of lung that was eventrated was not involved in respiration. Visible mucous membrane was pink in colour. The condition was diagnosed as extra-thoracic inter-costal pulmonary eventration (Fig. 2). Immediate surgical correction was resorted to. The patient was classified according to the physical status as ASA-4 patient.

TREATMENT AND DISCUSSION

The piglet was prepared aseptically by clipping and shaving the thoracic area on the mid to left lateral side. The animal was administered with atropine sulphate at a dose rate of 0.04 mg/kg and xylazine hydrochloride at a dose rate of one mg/kg as pre-anesthetic and anaesthesia was induced with ketamine at a dose rate of 7.5 mg/kg and all drugs were administered intra-muscularly. Antibiotic (Inj. Ceftiofur @ 50 mg/kg) and anti-inflammatory (Meloxicam @ 0.4 mg/kg) drugs were administered pre-operatively for prophylaxis.

The defect in the skin was extended towards both sides to visualize the actual defect. The defect was about three cm long. Bite marks were noticed on the subcutis as well as on the musculature. The defect was at the ventral part of the fourth inter-costal space and the defect at the inter-costal space was tightly closed by the herniated portion of the lung and this obliterated the movement of air into the herniated portion of the lungs. Also, the tightness at the junction sealed the thoracic cavity and maintained the negative pressure inside.

The inter-costal defect was enlarged so as to create room for the reposition of the eventrated lung lobe into the thoracic cavity. After replacing the eventrated portion of pulmonary lobe into the thoracic cavity, the torn inter-costal muscles were sutured using polyglactin 910 size 1-0 in a simple continuous pattern. The suturing was done as fast as possible to maintain the negative pressure inside the thoracic cavity. The continuous suture pattern applied to close the opening was checked after suturing and found to be sufficient in preventing leakage of air. The subcutis was sutured using chromic catgut size 1-0 in a simple continuous fashion and skin was apposed with surgical silk in a simple interrupted fashion (Fig. 3). The cutaneous wound was dressed with povidone iodine lotion and povidone iodine ointment was also applied. The piglet recovered from anaesthesia and stood on its limbs and moved around within two hours of completion of procedure (Fig. 4).

Pulmonary lobe eventration is a rare condition in animals. Negative pressure is to be maintained for normal movement of air to inflate and deflate the lungs. Once the negative pressure is compromised, the movement of air is hindered and normal blood oxygenation is affected. In this case, the herniated portion of the lung sealed the opening and thus maintained the negative pressure inside the thoracic cavity and therefore the air movement was not hindered. While correcting the hernial opening, the time that was consumed was kept as short as possible. The approach and the technique that was used in this case was sufficient to save the life of the piglet.

Fig. 1: Pink colored soft tissue mass protruding outside the thoracic cavity

Fig. 3: Piglet immediately after surgery

Fig. 2: pulmonary lobe eventration

Fig. 4: Recovered piglet

SUMMARY

The piglet with extra-thoracic inter-costal lung herniation was successfully corrected surgically and the piglet had an uneventful recovery.

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