Surgical Management of Umbilical Hernia in Large White Yorkshire Piglet Under General Anaesthesia

S.Vigneshwaran¹, V.Ramesh, K.Sivakumar and K.Chinnamani
Department of Livestock Production Management, Veterinary College and Research Institute, Namakkal – 637 002.

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Abstract

A three month old male Large White Yorkshire piglet weighing about 15 kg found with progressive swelling on the ventral part of abdomen near umbilical region with poor feed intake and reduced growth rate. On clinical examination the swelling was reducible and non – painful. Hernial ring was palpable after reduction of hernial contents. Surgical correction of hernia was done as per standard surgical procedure. Absence of nociception reflex and no movement of animal with adequate relaxation of muscles revealed that the anaesthetic protocol was suitable for the surgical procedure followed. It was concluded that xylazine at the dose rate of 1mg / kg body weight and ketamine at the dose rate of 5 mg/kg body weight in piglets found suitable anaesthetic protocol and hernial repair during early age had more successive rate in pigs.

Key words: Piglet, Umbilical Hernia, Surgical management.

Umbilical hernia in piglets was hereditary in origin due to the presence of dominant gene or any other environmental factors (Fubini and Ducharme, 2004). Genetic components contributes major part in both small and large animals, however cutting of umbilical cord too close to the abdomen may be another possible cause. Umbilical hernia may be acquired or congenital due to improper closure or hypoplasia of abdominal muscles and damage to abdominal muscles (Monsang, et al., 2014). Umbilical hernia is the common congenital defect seen in piglets. In swine herds the frequency ranges about 0.4 to 1.2% and the range varies with breed and sex (Searcy-Bernal, et al., 1994). Piglets with Umbilical hernia show reduced growth rate and death observed due to intestinal strangulation. Umbilical hernia and umbilical abscess often are seen together, especially in cattle and swine. Exploratory puncture, such as via fine–needle biopsy with cytopathology may be required for confirmation in abscess (Monsang, et al., loc cit).

Surgical correction of hernia was advised in early part of life (Fubini and Ducharme, loc cit). In this present paper successful surgical management of umbilical hernia under general anaesthesia is reported.

Case History and Observations

A three month old male Large White Yorkshire piglet weighing about 15 kg supplied through DBT scheme – pig husbandry showed progressive swelling on the ventral part of abdomen near the umbilical region. During weighment at fortnight interval reduced growth rate was observed. Anamnesis revealed that swelling was progressive and non – painful with normal feed and water intake. On clinical examination vital signs like temperature, heart rate and respiratory rate were within the normal limits. On physical examination it was revealed that the swelling was reducible by gentle reduction and no pain evinced on palpation and hernial ring was palpable after reduction of hernial contents (Fig 1). The case was diagnosed as umbilical hernia and surgical repair was advised. Surgical correction of hernia was done aseptically under general anaesthesia using xylazine (at the dose rate of 1 mg/kg bwt i/m) and ketamine (at the dose rate of 5 mg/kg bwt i/m) (Thurmon, et al., 1996). Maintenance of anaesthesia was achieved using the same when needed. After 10 minutes the animal was positioned in dorsal recumbency.
Inverted “J” shaped incision was made and the skin was reflected (Fubini and Ducharme, loc cit). In male pigs area of incision plays vital role to avoid damage to prepuce and prepupal sac. After skin incision the prepuce and prepupal sac were reflected by blunt dissection to avoid excess damage. The hernial ring was identified and the hernial sac was detached from the supporting structures. After separation the hernial contents were repositioned into the abdominal cavity. The hernial sac was excised and edges of the hernial ring were scarified using BP blade to promote quick healing. Hernial ring was closed using 1 size black braided silk by overlapping suture pattern. To provide additional support subcutis layer above the hernial ring was sutured with synthetic absorbable suture material 2-0 polyglactin 910 (Vicryl). The abdominal muscles were closed with horizontal mattress suture pattern using synthetic absorbable suture material 2-0 polyglactin 910. Penis and preputial sheath were repositioned to original position. The skin was closed using 1 size cotton thread by simple interrupted pattern (Fig 2). Sutured wound area was dressed with 0.1% povidone iodine solution daily until the suture removal. Antibiotic (Benzathine Penicillin 20,000 IU/Kg body weight) and analgesic (Meloxicam 0.2 mg/kg body weight) were administered daily for 5 days and the skin suture removed on the 10th post-operative day.

**Treatment and Discussion**

Exact cause for umbilical hernia in pigs is unknown. The prevalence was more common in female compared to male. “Familial” cause may be the reason in this case and the same had been reported by (Zhao, et al., 2008). Umbilical hernia of very small in size is not harmful it starts to close when the animal grows if the hernial is large size surgical correction was advised, In this case the hernial ring size was large and the surgical correction was advocated as recommended by Mosang, et al., loc cit). General anaesthesia provided suitable environment for surgery and xylazine and ketamine was the commonly used agents in the anaesthetic protocol (Hall, et al., 2001; Thurmon, et al., loc cit). Proper surgical approach with selection of ideal suture material aided perfect healing without any post operative complications. In this case successful management of umbilical hernia in male large white Yorkshire male pig was reported. General anaesthesia using xylazine and ketamine at the dose rate of 1 mg/kg bwt and 5 mg/kg respectively, showed absence of nociceptive reflex with no movement of animal. Adequate relaxation of muscles favored smooth surgical incision and suitable environment for entire surgical procedure. Successful surgical correction of umbilical hernia under general anaesthesia using xylazine and ketamine found to be effective for hernia repair in Large White Yorkshire piglet with the same dose and similar results as reported by Thurmon, et al., loc cit and Kumar, et al., (2015).

**Summary**

Successful surgical correction of umbilical hernia in large white Yorkshire piglet under general anaesthesia was reported. Surgical correction in early age is the treatment of choice for correction of these defects to prolong the life of the patient.

**References**

Palatoschisis Associated with Cranioschisis in a Buffalo Calf - A Case Report

B.Chandra Prasad1, M. Srinivas and A.Tangamani

Department of Veterinary Gynaecology and Obstetrics, Bhuddavaram Road, NTRCVSc, Gannavaram-521101.

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Abstract

A full term pregnant, Graded Murrah buffalo aged about 7 years in 2nd parity was presented to the clinics with a history of dystocia. After thorough lubrication and manipulation, a dead female foetus was relieved by traction. Clinical examination of the calf revealed cranioschisis with cleft palate.

Key words: Buffalo, Dystocia, Palatoschisis, Cranioschisis

Hereditary defects and environmental factors such as poisons, certain drugs or viruses may cause congenital disease. (Khaksary – Mahabady et al., 2006). Cleft palate usually results from partial or complete failure of apposition and fusion of the palatine process resulting in an opening between oral and nasal cavities (Sinowatz, 2010). Cranioschisis refers to failure of fusion of cranial bones and usually results in meningocele. A buffalo foetus with cranioschisis (lack of closure of the cranium) and cleft palate is placed on record.

Case History and Observations

A full term pregnant, Graded Murrah buffalo of age 7 years and in 2nd parity with history of dystocia was presented to the clinics. The water bag had ruptured 6 hours back. The animal was dull, depressed, and exhausted due to severe straining.

Low epidural anaesthesia was administered with 5ml of 2% lignocaine hydrochloride and the birth canal was lubricated with three litres of 2% carboxy methyl cellulose. The

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1Corresponding author: Email : cpmail1@rediffmail.com

Fig 1. Cleft palate