

CASE REPORT

Surgical Management of Non-Reducible Congenital Umbilical Hernia in a Piglet

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Ind J Vet Sci and Biotech (2021): 10.21887/ijvsbt.17.1.23

An umbilical hernia is one of the most common developmental defects in swine (Edwards and Mulley, 1999). These hernias result in economic loss because they can affect pig performance and market value (Morrow *et al.*, 2006; Straw *et al.*, 2008; Mattsson, 2011). Hernia is classified as a reducible or irreducible hernia. In irreducible hernia the content cannot be completely returned into the abdominal cavity because the content is incarcerated or strangulated or there are adhesions between the content and the hernia sac or ring (Hassan and Hassan, 2003). In porcine species, umbilical hernia is often associated with navel abscess or ulcerated thus requiring immediate attention (Adeola and Sunday, 2016). Large hernias may affect an animal's mobility and growth performance and cause an increased risk of mortality (Straw *et al.*, 2008). The present report deals with the successful management of large irreducible umbilical hernia in a piglet.

HISTORY AND CLINICAL OBSERVATIONS

On a routine visit to RVC pig farm placed in Ranchi Veterinary College Campus, attention was drawn to a 10 weeks old piglet with a bulge at the ventral abdominal part at the navel. It was a female piglet weighing 12 kg approx. History revealed that this condition was first noticed when the piglet was 4 weeks old as a small bulge and the bulge increased in size as the piglet grew. Physical examination in dorsal recumbency revealed a non-reducible umbilical hernia. Hence, it was decided to correct it surgically under general anaesthesia (Fig. 1).

SURGICAL MANAGEMENT AND DISCUSSION

The piglet was sedated using Midazolam as pre-anesthetic and anesthesia was induced with intravenous administration of ketofol (Ketamine and Propofol in the ratio of 1:1). After achieving the surgical anesthesia, the surgical site was prepared aseptically. An elliptical skin incision was made around the hernial sac and the skin bluntly dissected from the subcutaneous tissue and reflected by artery forceps. The hernia sac was then dissected to locate the hernia ring and enlarged to allow the hernia content replacement, which was the intestine, back into the abdominal cavity after careful

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How to cite this article: Kaushik, R., Sharma, A.K., Reetu, Kumar, B., Kumar, V., Oraon, S., & Minz, S.A.B. (2021). Surgical Management of Non-Reducible Congenital Umbilical Hernia in a Piglet. *Ind J Vet Sci and Biotech*, 17(1): 89-90.

Source of support: Nil

Conflict of interest: None.

Submitted: 20/09/2021 **Accepted:** 23/12/2021 **Published:** 25/03/2021

removal of all adhesions (Fig. 2). The edges of the hernia ring were debrided and closed with overlapping suturing technique using polyglactin 910 (Vicryl) of size 2/0. The skin was closed with horizontal mattress suture using Silk No. 1 after trimming off the excess skin left by the hernia and abscess (Figs 3 and 4).

Post-operatively the surgical wound was dressed for 10 days with topical application of 5% povidone-iodine and piglet was kept in a separate pen until complete healing of the surgical wound. Injection of Ceftriaxone @ 20 mg/kg for 5 days and Meloxicam @ 0.5 mL for 2 days were given



Fig.1: Piglet under general anaesthesia with large umbilical hernia



Fig. 2: Breaking of adhesion and replacement of hernial contents



Fig. 3: Suturing of hernia ring by using Vicryl of size 2/0

intramuscularly. The skin sutures were removed on 10th day post-operatively. The pig recovered uneventfully with no complication observed in 3 weeks follow-up period.

Umbilical hernias occur due to weakened supportive muscles around the umbilical stump or navel area of the pig. This causes the umbilical opening not to close properly and intestines protrude through the intestinal wall to form the “ball-like” structure often seen on the pig.



Fig. 4: Appearance of operative site after completion of surgery

Surgical management is the only effective technique for the management of irreducible hernia (Hassan and Hassan, 2003).

ACKNOWLEDGEMENTS

The authors are thankful to Dean, Ranchi Veterinary College and Director Research, Birsa Agricultural University for providing the necessary facilities to carry out this work.

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