



Surgical Management of Ruptured Umbilical Hernia in a Piglet

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SUMMARY

This clinical case report described the management of ruptured congenital umbilical hernia in an 8 weeks old piglet at a private pig farm in Uyo, Akwa Ibom State of Nigeria. The umbilical hernia was first noticed when the piglet was 4weeksold as a small bulge at the navel which increased in size as the piglet grew. At 8 weeks, the hernia had enlarged to an appreciable size that the piglet moved with some degree of difficulty and the skin around the hernia became thin revealing a non reducible umbilical hernia complicated with navel abscess. While trying to restrain the piglet for physical examination, trauma from the floor of the pen caused the hernia to rupture resulting in evisceration of the intestine. Following sedation of the piglet, it was restrained on dorsal recumbency. The condition was then surgically managed. The piglet recovered uneventfully with no reoccurrence or complications during the 3 weeks follow up period.

Key words: Umbilical, piglet, abscess, ruptured, hernia, elliptical skin incision, intestine.

INTRODUCTION

Hernia is an abnormal opening in a body wall and no requirement for displacement of visceral organs (Gyang, 1992 and Hassan and Hassan, 2003). A hernia consists of; i. Hernia ring which may be a persistent prenatal opening or an accidental rupture in the abdominal wall. ii. Hernia sac, which is made up of skin, muscle fibres or fibrinous connective tissues and sometimes the peritoneum. The hernia sac also has a neck, body and fundus. iii. Hernia content, which may be a loop of intestine (enterocele), omentum (epitocle) or peritoneal fluid (Gyang, 1992 and Hassan and Hassan, 2003). Hernia may also be described according to their pathologic content; i. Reducible hernia, is one in which the

content can be completely and easily returned into the abdominal cavity. ii. Irreducible hernia, is one in which 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 (Gyang, 1992).

Two of the more common anatomical defects that occur on pig farms are scrotal hernias and umbilical hernias. These hernias typically occur at frequencies of 1.7 to 6.7%, but in some instances can increase or “spike” for a variety of reason (Searcy-Bernal, *et al.*, 1994). Umbilical hernias occur due to weakened supportive muscles 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 (Gyang, 1992; Thailer *et al.*, 1996). In porcine species, umbilical hernia is often associated with navel abscess thus requiring immediate attention. Even those not complicated by navel abscess may develop some ulceration from trauma from injuries from floor and other objects (Gyang, 1992).

CASE REPORT

Case history and clinical examination

On a routine visit to a private pig farm in Uyo town in Akwa Ibom State of Nigeria, attention was drawn to an 8 weeks old female piglet with a bulge in the ventral abdominal part at the navel. 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. At 8 weeks the hernia had enlarged to an appreciable size that the piglet moved with some degree of difficulty. While trying to restrain the piglet for physical examination, trauma from the floor of the pen caused the hernia to rupture resulting in eviscerations of the hernia around the umbilical stump or navel area

content (Plate I). On restrained the piglet was stable and all the vital parameters were within the normal range. Physical examination revealed thin skin around the hernia, a non reducible umbilical hernia complicated with navel abscess. The piglet weighed 8 kg.

Surgical Management

The piglet was sedated using ketamine (Ketamine Hydrochloride® 50mg/ml. ROTEX MEDICA, TRITTAU. GERMANY) at a dose rate of 15 mg/kg intramuscular and physically restrained on dorsal recumbency. The eviscerated intestine was cleansed of dirt and returned back into the abdominal cavity, and the surgical site was then prepared. Local anaesthetic (2% Lignocaine without adrenaline) was infiltrated around the umbilical hernia and an elliptical skin incision was made around the hernia sac, the skin was bluntly separated from the subcutaneous tissue and reflected taking care not to rupture the associated abscess, thus avoiding contamination from the abscess. The associated abscess was then carefully dissected out without rupturing the capsule. The hernia ring was located and

extended to join the ruptured abdominal wall to allow replacement of the hernia content which was the intestine back into the abdominal cavity after careful removal of all adhesions. The edges of the hernia ring were debrided and closed with re-enforced simple continuous suture using size 2 chromic catgut. The skin was closed with horizontal mattress suture using size 2 nylon after trimming off the excess skin left by

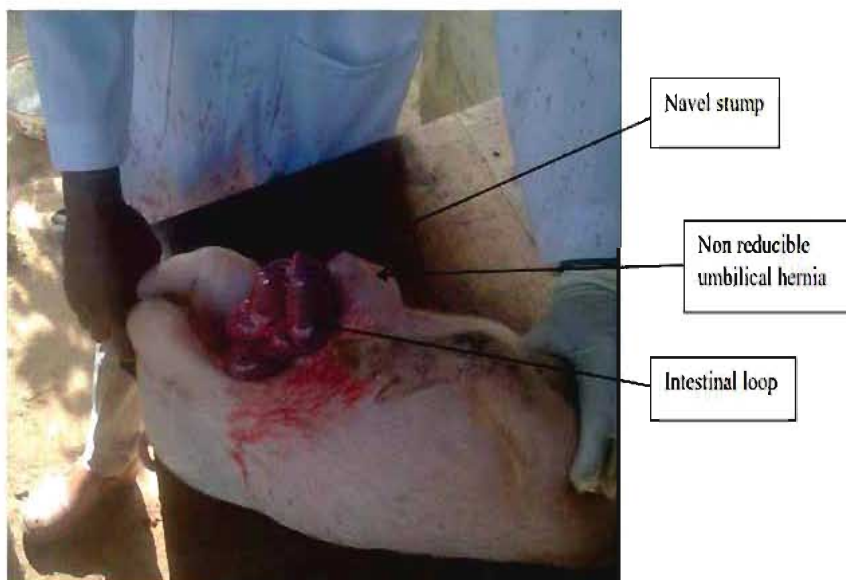


Plate I: Piglet on dorsal recumbency showing ruptured umbilical hernia complicated with abscess

the hernia and abscess (Plate II). (Gyang, 1992; Hassan and Hassan, 2003).

Post Surgical Management

The piglet was kept in a separate pen until complete healing of the surgical wound. The surgical wound was dressed topically for 2 weeks with povidone iodine. Penicillin Streptomycin (PEN-STREP 20/20®, V.M.D. s.a./n.v. Hoge Mauw 900, B-2370 Arendonk Belgium) antibiotic was administered for 7 days at a dose rate of 1ml/25kg. Ketorolac Tromethamine (DOLAC®, CADICA PHARMACEUTICALS, 1389, DHOLKA-387810, INDIA) analgesic was also giving at a dose rate of 2 mg/kg. The pig recovered uneventfully with no complication observed in 3 weeks follow up period.

DISCUSSION

The occurrence of the umbilical hernia in this piglet agrees with Gyang, 1992 and Searcy-Bernal *et al* 1994, that in porcine

REFERENCES

- GYANG, E. O. (1992). Introduction to Large Animal Surgery; Department of Veterinary Surgery and Medicine, Faculty of Veterinary Medicine, Ahmadu Bello University Zaria, Nigeria. Pp. 256 – 266.
- HASSAN, A.Z. and HASSAN, F.B. (2003). An introduction to Veterinary Practice. Ahmadu Bello University Press Ltd.Zaria, Nigeria. Pp. 299 – 300.
- THAILER. G. DEMPFFLE, L and HOESCHELE, I. (1996). Maximum likelihood analysis of rare binary traits under different modes of inheritance. *Genetics*, 143:1819-1829.
- SEARCY-BERNAL R, GARDNER, I. A, and HIRD, D. W. (1994). Effects of and factors associated with umbilical hernias in a swine herd. *Journal of American Veterinary Medical Association*, 204(10):1660-1664.
- MICHAEL, S. M. (2008). Technical Bulletin, Anaesthesia and Analgesia in Swine. Department of Comparative Medicine, Medical University of South Carolina, Charleston, South Carolina, pp 29425.



Plate II: Closure of umbilical hernia in a piglet (arrowed)

species, umbilical hernia is often associated with navel abscess thus requiring immediate attention and that 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.