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## Surgical management of traumatic inguinal hernia in a crossbred pig: Case report

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**Abstract**

An 8 month old castrated male crossbred pig was presented with complaint of hard swelling at the inguinal region with vomiting and absence of defecation for the last five days. Physical examination and exploratory surgery confirmed a faecolith obstructing the inguinal hernial ring. Enterotomy with herniorrhaphy was done with post-operative treatments and uneventful recovery was observed after one week.

**Keywords:** Inguinal hernia, fecolith, pig, enterotomy, herniorrhaphy

**Introduction**

Inguinal hernia occurs when intestines or other abdominal organs pass into the inguinal canal and it develops when an abnormally large and patent vaginal ring allows free communication between the vaginal tunic and peritoneal cavities. In more complicated cases organs protrude into the scrotum to form a scrotal hernia. The presence of an opening or defect in the wall is the main factor in herniations irrespective of whether a protrusion through the opening is present or not [1]. This type of hernia is common in swine and the frequency of inguinal hernia among the swine population varies between 0% to 15.7%, with an estimate of approximately 1% as being caused by genetic factors [2].

Inguinal and scrotal hernias need to be differentiated from scirrhus cord, hydrocele and hematoma of the testis. Diagnosis can be made by historical data (e.g., castrated pigs are more likely to have a scirrhus cord), direct manipulation, needle aspiration, ultrasonography and radiography and. Inguinal hernias are often encountered at the time of castration [2]. A case of surgical correction of inguinal hernia and Enterotomy for removal of fecolith is discussed in the present paper.

**History and Diagnosis**

An 8 month old castrated male crossbred pig was brought to the Teaching Veterinary Clinical Complex with a long standing hard swelling present at the inguinal region (Figure 1). Anamnesis suggested that the pig has fallen from the sty and there was swelling since then in the inguinal area for the past 5 days. Further, the animal is not defecating for the past 5 days and there was vomiting after taking food and water. On palpation it was revealed that, there was a hard mass of about 15 cm, non-painful, irreducible structure and the hernia ring could not be palpated. Fine needle aspiration was done to differentiate it from tumour or abscess. Clinical parameters like rectal temperature, heart rate, respiratory rate were within the normal physiological range. Exploratory surgery was decided to overcome any further complications.

**Treatment and Discussions**

The pig was sedated with Triflupromazine HCl @ 0.8 mg/kg, IV) & for ease of handling and restrain. Regional anaesthesia by lumbosacral epidural nerve block with 2% lignocaine HCl @ 1 ml/10 kg body weight was given using 18 gauge needle [3].

After aseptic preparation of the surgical site, animal was placed in dorsoventral position and surgical incision was made over the skin of the herniated mass to expose the hernial content, which consisted of intestines filled with faecolith (Figure 2). Enterotomy was done at the anti-mesenteric border to remove the faecolith and closed by continuous Lembert's suture with

Chromic catgut no. 1-0. Subsequently, the herniated intestines were slowly reposed back after washing the exposed area with lugol's solution with the help of blunt-end forceps and fingers avoiding any complications. Herniorrhaphy was done using black braided silk in simple interrupted pattern after debridement and subcutaneous tissues and skin were closed as usual (Figure 3). Antibiotics therapy (Inj. Flobac SA @ 1 ml/30 kg body weight IM at 72 hours interval), metronidazole

(Metrogyl @ 100 ml IV for 3 days), analgesics (Inj. Melonex @ 0.4 mg/kg, IM for 3 days) and vitamins (Tribivet @ 2ml IM alternate days for 5 days) were administered along with regular antiseptic dressings and topical application of Dressol-FR ointment. Solid diet was restricted with the administration of 5% DNS and RL (Ringer's Lactate solution) for the first 4 days to the hospitalized animal.



**Fig 1:** Castrated male with inguinal hernia



**Fig 2:** Enterotomy for removal of faecolith



**Fig 3:** Closure of muscle and skin



**Fig 4:** Animal recovered after 7 days

Injection of Petzole (Pantoprazole @ 40 mg slow IV) was given twice daily for 7 days in order to reduce the gastrointestinal irritation. No serious complications were observed and the animal recovered on 7<sup>th</sup> day of post operation (Figure 4).

Genetically, epidemiologically and certain factors like trauma, surgical intervention, chemicals and certain drugs have been reported to be some of the factors which leads to the development of hernias like congenital umbilical hernia and inguinal hernias are often apparent at birth<sup>[4]</sup>. Inguinal hernias are mostly encountered at the time of castration<sup>[2]</sup>. In veterinary practice, simultaneous occurrence of both hernia and intestinal faecolith as a hernial content is very rare. The animal may be at risk when such fecolith is present as it might disturb the whole length of digestive system. If proper diagnosis and quick treatment is not done, complications like adhesion, incarceration, hydrocele of the hernial sac and torsions may occur<sup>[5]</sup> and abscess as reported in goats<sup>[6]</sup>. However, the intestine viability is maintained in the present case and no above signs were observed except for the presence of a fecolith. Hernia of this kind may occur due to poor floor construction as in case of pig sty made of locally available material. Enterotomy and herniorrhaphy was done avoiding any chances of complication and proved successful. In conclusion, traumatic inguinal hernia complicated with intestinal fecolith was treated successfully in an 8 month old

castrated crossbred pig. Timely surgical intervention is the only treatment of choice for corrections of these defects so as to save the animal. Delayed and ineffective treatment may lead to serious complications which may ultimately lead to death.

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