

# Surgical Management of Perineal Hernia by Obturator Internus Flap in Dog

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**Abstract:** A 10 years old, intact male spitz dog was referred to Small Animal Surgery Out Patient unit of Madras Veterinary College Teaching Hospital with the history of dyschezia, dysuria and reduced appetite with an abnormal progressive, painless swelling at the right perineal region. On clinical examination soft fluctuating mass was palpable at the right perineum and revealed an extensive tear in the right pelvic diaphragm on rectal examination. The case was tentatively diagnosed as a perineal hernia. Routine Survey radiography and ultrasound were performed that revealed the presence of distended bladder along with omentum as the hernial contents. Symptomatic treatment was aided through catheterization to relieve the urine followed by sodium phosphate enema to counterfecal stasis. Hematobiochemical profiles were taken to rule out organ health that revealed uremia and an increase in the ALP levels. Following restoration of dehydration and stabilisation of the patient, a herniorrhaphy was planned. Intra operatively, lack of muscle tone was observed in the pelvic diaphragm which made it unsuitable for standard herniorrhaphy, therefore an obturator internus flap was performed. Standardised post-operative care and treatment were administered until the dog had an uneventful recovery.

**Keywords:** Perineal Hernia-Obturator Flap-Dog

## 1. Case Presentation and Diagnosis

A 10 years old Spitz intact Male dog was referred to Small Animal Surgery Out Patient unit of Madras Veterinary College Teaching Hospital with the history of reduced appetite, dyschezia and dysuria with an abnormal painless swelling in the right perineal region. On clinical examination a soft fluctuating swelling was observed at the right perineum region, in addition an extensive tear was observed in the Pelvic diaphragm on rectal examination. The case was therefore tentatively diagnosed as perineal hernia. Cystocele with concurrent faecal stasis was observed through plain radiography examination. Ultrasound examination revealed omentocele and a distended bladder with absence of any intestinal strangulation and adhesions Symptomatic treatment through catheterization was done to relieve urine followed by sodium phosphate enema to relieve fecal stasis. Hemato biochemical profile revealed neutrophilia, marginal anemia, thrombocytopenia, uraemia, increased ALP levels were observed. Appropriate supportive therapy was provided through hematonics and fluid therapy to counter dehydration. Following stabilisation surgical intervention was planned through herniorrhaphy.

## 2. Treatment

The dog was premedicated with diazepam @ 0.5 mg/kg body weight and Butorphanol @0.2mg/kg body weight intravenously. Anaesthesia was induced with propofol @ 4mg/kg body weight intravenously. Following induction, intubation was performed with 7.0 I.D. cuffed endotracheal tube. Epidural analgesia at sacrococcygeal space with 1 ml of 2% lignocaine was administered in order to prevent tenesmus and to provide analgesia. Anaesthesia was maintained with 2.5% isoflurane in a closed rebreathing circuit. The animal was

castrated under dorsal recumbency following which the pet was placed in perineal position, a tampon was inserted in the rectum and a pursestring suture was placed around the anal orifice. Positioning was done in such a way that the animal was placed in ventral recumbency with tail fixed over the back. Pelvis was elevated and the hindlimbs were padded. A curvilinear skin incision was made 1 to 2 cm lateral to the anus, beginning at the base of the tail and extending 1 to 2 cm ventral to the ischium. The hernial sac contents were replaced into the abdomen through the pelvic inlet. Lack of muscle tone was observed in the pelvic diaphragm that made it unsuitable for standard herniorrhaphy therefore an obturator internus flap was planned and performed as an alternative. The internal obturator muscle was incised at its insertion and deflected. The obturator flap was sutured dorsally with the coccygeal muscle and the external anal sphincter following which a 3-pointsutures pattern was performed viz., Levator ani muscle and external anal sphincter muscle and the flap was sutured with external anal sphincter muscle ventrally by using PGA 2-0 suture material. Sub cutaneous tissue was apposed by simple continuous pattern with PGA 2-0 and skin with polyamide 2-0. The anal plug was then removed finally. Bandage was done and antibiotics were given. Owner advised to give oral antibiotics and to apply E-Collar. The pet had an uneventful recovery without any complications.

## 3. Discussion

Perineal hernia is characterized by disruption of the pelvic diaphragm and herniation of the abdominal or pelvic organs into the ischioanal fossa especially in middle-aged or aged intact male dogs Sjollemo *et al* (1993). Approximately 59% of the perineal hernias are unilateral while 41% are bilateral Bellenger *et al* (2003). Short-tailed dogs and aged animals are more prone for perineal hernia.

Pathophysiology involves the weakening of pelvic diaphragm due to hormonal influences especially relaxin in the male animals. The weak pelvic diaphragm fails to support the rectal wall causing rectal distention and impaired defecation. The weakening may also occur due to congenital or acquired muscle weakness, trauma and straining. Vnuck *et al* (2006) Atrophy of pelvic diaphragm due to neurological origin has also been identified as a cause of perineal hernia in some animals. Anderson *et al* (2008). The pelvic diaphragm includes Levator ani muscle, external anal sphincter muscle, internal obturator muscle, coccygeus muscle and sacrotuberoseous ligament. The hernial sac usually made of perineal fascia, subcutaneous tissue and skin from interior to exterior. No hernial ring will be present in perineal hernia in contrast to other external hernia.

Perineal hernia may be associated with sacculation, dilatation, deviation and diverticulation of rectum, retroflexion of urinary bladder or ureteral obstruction Brissot *et al* (2006). The recurrence of the hernia, tenesmus and rectal prolapse are not rare with standard herniorrhaphy. Internal obturator flap technique has been used frequently and the recurrence rate declined to 2-10% Popovitch (1989). Castration is recommended due to the effects of testosterone Head *et al* (2005); or relaxin Niebauer *et al* (2005) on the prostate gland and perianal musculature.

There are several treatment methods used for the repair of perineal hernia including the standard herniorrhaphy, transposition of the internal obturator muscle Bilbrey *et al* (2004), semitendinosus muscle or superficial gluteal muscle, porcine dermal collagen usage, porcine small intestinal submucosa, autogenous fascia lata graft, polypropylene mesh and plastic mesh Okumuş *et al* (2001).

Combined techniques have also been proposed such as colopexy, cystopexy or vas deferens pexy and "2-step protocol" was developed, in which laparotomy was performed as the initial stage of repair in bilateral or complicated perineal hernia and followed by perineal herniorrhaphy. Gilley *et al* (2003). Misplaced sutures into the rectal mucosa can lead to excessive straining and development of rectocutaneous fistula. Bongartz *et al* (2003). In situations when the internal obturator muscle is atrophied and cannot be used as flap recent techniques of xenografts (porcine intestinal submucosa) and meshes can be done. Common complication includes recurrence, constipation and dyschezia which were not encountered in the present case.

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