Case Report

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Perineal hernias in children: Case report and review of the literature

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ABSTRACT

Perineal hernias (pelvic floor hernias) are extremely rare occurring through defects in musculature of the pelvic floor. This report presents a successfully treated case of primary perineal hernia and takes a review of the existing literature. The case of a 14-month-old girl with a great perineal hernia is presented. Diagnosis was secured by barium enema. The pelvic defect was successfully treated by primary suture with prolene. The literature shows many different approaches for treatment of perineal hernia, such as open or laparoscopic mesh repair, and perineal, abdominal or combined access in the adult, but our case like others confirms that primary closure of the hernial orifice through a perineal approach is also feasible in children.

Key words: Children, pelvic floor, perineal hernia, suture repair

INTRODUCTION

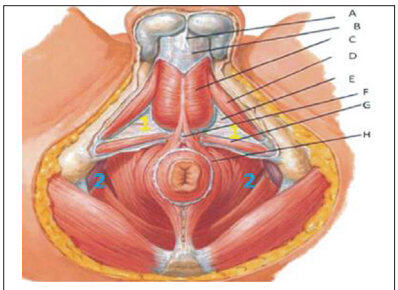
Hernias of the pelvic floor are extremely rare,[1,2] and they include in order of decreasing frequency: obturator, perineal and sciatic hernias.[3,4] Among the perineal hernias, an anterior and a posterior form can be delineated [Figure 1] based on their position relative to the transverse perineii muscle. The orifice of the anterior form is located in the urogenital diaphragm. Clinical manifestation is a prolapse in the area of the labia. The orifice of the posterior form is located either in the levator ani muscle itself or between levator ani muscle and coccygeus muscle.

Since the treatment of perineal hernia is surgical, and because of the diagnostic dilemma often associated with this condition, a correct preoperative diagnosis is obligatory as erroneous approach in surgery carries unnecessary risk with dire consequences.

In this report, we present our experience in the diagnosis and treatment of perineal hernia with a review of relevant literature, first at the Schneider Children's Medical Center.

CASE REPORT

The patient was a female infant born at 36 gestational weeks after a normal pregnancy and delivery. Birth weight was 2600 g. Shortly after delivery, her father noticed a swelling on her left buttock. The swelling had a bluish discoloration and was initially believed to be a hematoma of unknown origin. Because of some breathing difficulties, the infant was admitted to the Neonatal Intensive Care Unit for observation. The next day, this problem resolved without any specific treatment. On routine examination, the slight bluish swelling of the left buttock was still present. Except of mild constipation, the child was completely asymptomatic. Hernia was first suspected at the first follow-up visit, when her mother reported that the mass increased in size when the child cried. Clinical



1 = Anterior perineal hernia, 2 = Posterior perineal hernia A = Penile shaft, B = Penile medial raphe, C = Bulbospongiousus muscle, D = Ischiocavernosus muscle, E = Perineal membrane, F = Perineal body, G = Superficial transverse perineal muscle, H = Superficial external anal sphincter muscle, I and K = Levator ani muscle [I = Pubococcygeous, K = Ischiococcygeous muscle], L = Gluteus maximus muscle, deep external anal sphincter muscle

Figure 1: Anatomy of the male pelvic floor

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examination revealed a painless, palpable, easily reducible mass located at the inferior border of the left gluteus and laterally to the anus. Rectal examination showed preserved anal sphincter tonus with some rectal 'elongation' at the posterior aspect. Barium enema performed at the age of 4 months showed the rectum herniated out into the left buttock [Figures 2a and b]. Magnetic resonance imaging revealed a posterolateral herniation of the rectal wall and normal anatomy of the pelvic structures.

Surgery was postponed until age 14 months because of moderate failure to thrive. At surgery, via a posterior approach over the median raphe in the jack-knife position, the herniated rectum was clearly visible, penetrating the left levator ani muscles and extending to a subcutaneous position of the left buttock, just lateral to the median raphe. No peritoneal sac was present because the herniation occurred extraperitoneally. The fascial investments of the levator ani were incised, and special care was taken not to compromise the normal rectal lumen. The protruding posterior rectal wall was repositioned above the levator ani. The fascia was sutured with interrupted Vicryl 3/0 sutures and the repair was reinforced by mobilising the inferior border of the gluteus maximus and re-attaching it as second layer. Postoperative recovery was uneventful, and the patient continued to have normal fecal and urinary continence. She was discharged on the fourth postoperative day. Last follow-up examination 1 year later showed that repair was satisfactory.

DISCUSSION

Perineal hernias are extremely rare occurring through defects in musculature of the pelvic floor.[5] The rarity of this condition is attested to by the paucity of studies reporting its occurrence and management. Although only a few numbers of perineal hernias has been reported, literature is awash with confusing names ascribed to the condition.

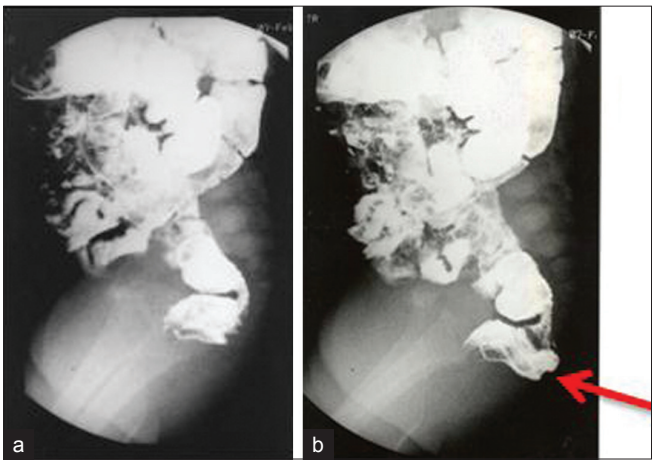


Figure 2: (a) Lateral view of rectum filled with contrast material (Arrow) (b) Lateral view showing the protrusion of the rectum into the buttocks beneath the coccyx

Perineal hernias may be primary (congenital or acquired) or an outcome of incisions through the reconstructed pelvic floor (secondary). Incisional hernias which occur most often in adults after extensive pelvic surgery are not considered as primary pelvic hernias.[3,4,6,7] Primary forms are extremely rare; in pediatric population they are even rarer. Of the 100 cases that have been reported in the literature,[8] only about 6 are reported in children.

Primary perineal hernias can be congenital or acquired. They result from the developmental defect in the muscles of the pelvic floor.[9]

The perineum is rhomboid in shape, divided into two triangular portions by a transverse imaginary line just anterior to the ischial tuberosites [Figure 1]. This line also passes just anterior to the anal orifice. The anterior perineal triangle, or urogenital perineum, differs widely in the two sexes, both anatomically and in the frequency and variety of hernias encountered. Anterior perineal hernias (which have never been reported in males) emerge anterior to the transverses perineal muscles and often present as a mass in the labia. In contrast, the posterior triangle, or anal perineum is very similar in both males and females. The muscular defect of posterior perineal hernias lies posterior to the transverses perineal muscle, usually between the rectum and the ischial tuberosity.

In males, posterior perineal hernias may appear in the ischiorectal fossa or perineum, just lateral to the median raphe. In females, the defect is through the levator ani muscles or between the levator ani and coccygeus muscles, as in our patient. Perineal hernia may present a diagnostic conundrum that can be mistaken for numerous causes of perineal masses (hematomas, lipomas, fibromas, rectocele, cystocele, prolaps of rectum or abscess). A correct preoperative diagnosis is obligatory because erroneous approach in surgery carries unnecessary risk with dire consequences.

The symptoms of perineal hernias are rarely pronounced. The clinical presentation usually consists of an uncomplicated, soft, reducible mass in the perineum. In infants, posterior perineal hernia may present as a congenital defect between the external sphincter and levator ani, causing a symptomatic triad of change in

bowel movements, mass in the buttocks and abnormal rectal position.[10,11] The hernia rarely incarcerates because of the wide neck and the relatively elastic tissue surrounding it. In anterior perineal hernias, the hernia may cause difficulty in micturation due to the presence of a portion of the bladder within the hernia sac. Posterior hernias are occasionally associated with difficulty in defecating as was the case in this report.

Posterior perineal hernia protrudes below the level of the gluteus maximus or through the fibres of the levator, manifesting clinical manifestation as a unilateral bulging of the gluteal or perineal region, as reported in this case. The only other primary hernia which may be readily confused with a perineal hernia is a sciatic hernia. Sciatic hernia emerges through the greater or lesser sacrosciatic foramen, and usually presents as a mass along inferior margin of the gluteus maximus muscle like a posterior perineal hernia. Clinically, it is only by palpating the defect in the pelvic floor after reducing the swelling that a perineal hernia can be differentiated from a sciatic hernia.

Clinical diagnosis of a perineal hernia can be supported by different technical investigations, such as sonography,[12] computed tomography (CT),[5] magnetic resonance (MR) tomography,[13,14] or herniography,[15] as shown in the present case [Figures 2a and b].

The management of perineal hernia is very controversial, in terms of methods for both approach and technique of closure. This may not be unconnected to the complex anatomy of the pelvic floor. The difficulty in the identification and especially mobilization of muscular and fascial components may lead to the development of individual strategy. Several other approaches are described. Whereas some studies reported the transabdominal approach,[16,17] others preferred the perineal approach and describe it as an adequate therapy.[7,18] Still others recommend a combined abdomino-perineal approach.[19,20] Muscular flaps from the rectus abdominis, the gluteus or the gracilis muscle have all been described for treatment of perineal hernia,[21,22] the use of the bladder for closure of the pelvic defect.[23] Depending on the extent of the pelvic floor defect, either direct suture or implantation of a synthetic alloplastic mesh material may seem to be advisable.[24,25] Laparoscopic approach using such meshes for closure of the pelvic defect has been described.[26]

In children, several studies reported perineal approach with primary closure in the surgical management of perineal hernia with good success.[1,10,11] Aware of all the different alternatives available in treatment of perineal hernia, the presented case adopted the direct suture of the orifice with long-term absorbable material which seems one viable option for surgical therapy of rare perineal hernias, provided the muscular margins can be clearly identified and the pelvic defect is of appropriate range. In our experience the outcome was excellent; with nearly 1 year after operation, clinical investigation shows the patient free of recurrence.

In summary, perineal hernia is a rare occurrence and may confront the physician with a diagnostic dilemma. A correct preoperative diagnosis is obligatory because erroneous approach in surgery carries unnecessary risk with dire consequences. Unlike in adults, perineal hernias in children may be safely and successfully treated by primary surgical repair with a perineal approach.

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