University Journal of Surgery and Surgical Specialties

ISSN 2455-2860 Volume 3 Issue 2 2017

SCIATIC HERNIA - A RARE TYPE OF HERNIA

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Abstract :
Background - Sciatic hernias are considered the rarest pelvic floor hernias, with a very limited number of published reports worldwide. Case report - We report a 43 year old female who presented with a slow growing swelling in the left gluteal region. Examination revealed a soft, partly reducible, swelling with expansile impule on coughing. At laparotomy the cyst was found to be arising between the two layers of the broad ligament and passing through the greater sciatic foramen. The content of the cyst was dark brown fluid. The cyst was excised and a prolene mesh plug was placed in the defect. Histopathology of the cyst showed a simple serous cyst. Conclusions - Sciatic hernia is unusual, and can present with diagnostic and treatment dilemmas. The hernia may present with obscure pelvic pain, intestinal obstruction, life-threatening gluteal sepsis, or as an asymptomatic, reducible mass that distorts the gluteal fold. Small sciatic hernia can remain hidden behind the gluteus maximus muscle. The diagnosis requires imaging studies in such cases. Treatment of sciatic hernia is always surgical and requires prosthetic reinforcement for the best result.
Keyword : Hernia, Sciatic foramen, Sciatic hernia, Surgery

INTRODUCTION:

Hernias of the pelvic floor are extremely rare and often present diagnostic and therapeutic dilemmas. Three main types of pelvic floor hernias have been described including, in order of decreasing frequency, obturator, perineal, and sciatic hernias. Sciatic hernias are considered the rarest, with a very limited number of published reports worldwide. The sciatic hernia was first described by Papen in 1750. Reviews from the 19th century suggest that nearly 20 cases were published until 1900; uncertainty of whether some of these hernias were truly sciatic hinders precise statistics of the condition’s occurrence. Less than 100 cases have been reported worldwide till now.

CASE REPORT:

A 43 year old female patient presented to the out-patient department with chief complaints of left gluteal swelling for 3 months duration. The swelling was insidious in onset and it gradually increased in size. The swelling was associated with a dull aching pain. No other complaints were present. The patient was well built and nourished.

Fig 1: Pre-op photograph showing sciatic hernia in the left gluteal region

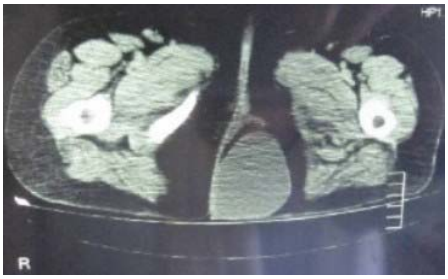

Fig 2: CT scan showing the cyst in the left gluteal region

On examination there was a swelling of size 8 x 7 cm in the left gluteal region. The swelling was hemispherical in shape, surface was smooth, skin over the swelling was normal, soft in consistency. There was expansile impulse on coughing and it was partly reducible. The abdomen was soft, no mass was palpable and there was no organomegaly. Per rectal and per vaginal examination also was not contributory.

All basic investigations were within normal limits. An USG of the abdomen showed a left ovarian cyst.A CECT abdomen was done which showed a cystic lesion of size 12 x 8 x 5 cm which was dumb-bell shaped. The swelling extended from the pelvis into the gluteal region via the greater sciatic notch pushing the bladder and uterus anteriorly. Cyst wall showed contrast enhancement. A diagnosis of Left sciatic hernia with left ovarian cyst as the content was given by the radiologist. A laparotomy was performed and the findings were as follows. The ovary and tubes on both sides were normal. A cyst was found arising between the two layers of the broad ligament of size 12 x 8 x 6 cm. The cyst was found to be entering the greater sciatic notch. The cyst contents were aspirated which showed dark brown fluid. The cyst was excised in-toto and the defect was closed using a prolene plug and was anchored. The post-operative period was uneventful. The histopathology of the

Fig 3: Intr-op picture showing the cyst

Fig 4: Contents of the cyst

Fig 5: Cyst wall

Fig 6: Prolene plug in-situ

Fig 7: Post-op photograph

DISCUSSION:

A sciatic hernia is defined as a protrusion of peritoneum and intra-abdominal contents through the greater or lesser sciatic notch. The greater sciatic notch is traversed by the piriformis muscle, and hernia sacs can protrude either superior or inferior to this muscle. There are classically three variants of the sciatic hernia that are defined by their anatomic site of exit from the pelvis. The suprapiriform defect is by far the most common and is thought to represent 60% of cases of sciatic hernia. Infrapiriform hernias are found in approximately 30% of cases, and subspinous hernias (through the lesser sciatic foramen) occur in 10% of cases. The hernia sac passes laterally, inferiorly, and ultimately posteriorly to lie deep to the gluteus maximus muscle. While case reports of this rare hernia exist in the pediatric age group, the majority of sciatic hernias are found in the adult population. The patient complains of pain deep in the buttock that may radiate down the leg in the sciatic nerve distribution. Alternatively, the patient may report a lump in the buttock or infragluteal area that is painful and tender. Rarely, ureteral obstruction occurs because the ipsilateral ureter is contained within the hernia contents. Physical examination often reveals a reducible mass deep to the gluteus maximus, although the actual hernia defect is rarely palpable given the anatomic depth and the thickness of the buttock musculature. Incarceration of the hernia can occur, and sciatic hernia has been known to present with bowel obstruction. The treatment of a sciatic hernia is surgical. Both transperitoneal and transgluteal approaches have been described in depth, and the transperitoneal technique is preferred in the setting of bowel obstruction or incarceration. Rarely, a combined approach will be necessary to fully reduce the hernia contents. Even in the setting of incarceration, the bowel can usually be reduced from within the hernia with gentle traction. When necessary with the transperitoneal approach, the defect can be dilated with manual manipulation or the piriformis muscle

may be partially incised. Full visualization of the structures is necessary and great care must be taken to avoid injury to the many nerves and vessels found in this region. After the sac has been excised, the defect is repaired using interrupted nonabsorbable suture or a prosthetic mesh plug or patch for larger hernia defects.

The posterior or transgluteal technique can be utilized for uncomplicated, reducible sciatic hernias diagnosed preoperatively. With this method the patient is placed in the prone position. The gluteus maximus muscle is approached through a gluteal incision starting at the posterior edge of the greater trochanter and is detached at its origin to expose the hernia defect. This exposure allows visualization of the piriformis muscle, the gluteal vessels and nerve, and the sciatic nerve. The sac is then isolated and opened. Following reduction of the hernia contents, the defect can be sutured closed using large nonabsorbable suture or repaired with a prosthetic mesh.

We did a thorough literature review using the key words hernia, sciatic foramen, sciatic hernia and surgery in MEDLINE. The search located 78 articles describing 99 patients suffering from sciatic hernia . The group included 89 adults aged from 19 years to 90 years; 68 were females (77%), and 33 were in their 60s or older (37%). There were also 10 pediatric patients aged from 5 weeks to 22 months, the age of 2 children was not reported. Three children and 1 adult had bilateral hernias. Significant comorbidities or predisposing conditions were found in 46 patients (46%), including neoplasms in 10% of the patients, coexisting hernias in 8%, congenital anomalies in 6%, disorders of the pelvic bones in 6%, metabolic problems in 3%, multiparity or pregnancy in 3%, malnourishment in 3% and a variety of other ailments (10%), which may or may not have contributed to the condition's etiology. One patient had history of major pelvic surgery (hysterectomy) preceding the hernia and 2 patients had suffered major pelvic fractures. Only 4 of the hernias (4%) were recurrent.

The clinical presentation varied with the individual features of each case. The duration of symptoms at time of presentation ranged from several hours to more than 30 years. A lump was present in 35 patients (36%) and varied in size from almost invisible to 20 cm in diameter. Only 7% of patients complained of distinct pain at the site of the hernia. In contrast, 50% presented with abdominal pain. Eight patients had sciatica. Another 19% presented as emergencies with acute symptoms including intractable pain or intestinal obstruction (13%) caused by the sciatic hernia itself (11%), or by a coexisting obturator hernia (2%). Other emergency presentations in the group included severe urinary sepsis in 4% and gluteal sepsis (2%) originating from the sciatic hernia. The diagnosis was made or suspected by physical examination in 37% of the patients described. Contrast urograms (23%) were diagnostic when the hernias were not palpable but involved the ureter. Other imaging methods used to make or supplement the diagnosis included computed tomography (CT) scan (13%), oral contrast (3%), magnetic resonance imaging (MRI) (2%), ultrasound (2%), and peritoneography (2%). A single group of 20 sciatic hernias (which constitutes the world's single large series) were diagnosed laparoscopically in a population of female patients who presented with chronic pelvic pain and no clinical signs of sciatic hernia**.** In 3 of the 98 sciatic hernias (3%) described, the correct diagnosis was established postmortem.

Operative management was reported in 72 patients (73%). The hernia was approached through the abdomen in 43%, through the gluteal region in 19%, or through a combined approach (abdominal and gluteal) in 8%. Laparoscopic repair was performed in 21% of all patients. A detailed description of the hernia orifice was reported in 38 of all cases. This group included suprapiriform (63%), infrapyriform (53%), or sacrospinous (8%) hernia defects; 2 or more of the above 3 types coexisted in 16% of these patients. The content of the hernia was clearly described in 97 operative reports and included ovary (28%), ureter (25%), small intestine (23%) including 1 Meckel's diverticulum, 11 colon (18%) including 1 hernia containing a large sigmoid diverticulum, 8 neoplasms (7%), greater omentum (3%), urinary bladder (1%). More than 1 anatomic structure was found in 7% of the cases; in another 5% the sac was empty.

Among the 63 cases in which the closure method was described, half used endogenous repairs, followed by prosthetic repairs in 42% or no closure of the defects in 3%. Outcome data were available for 47 patients, 4 of whom died (9%). Follow-up ranged between 18 days and 5 years. Two hernias decreased in size and another hernia recurred.

CONCLUSIONS: Sciatic hernia is unusual, and can present with diagnostic and treatment dilemmas. The hernia may present with obscure pelvic pain, intestinal obstruction, life-threatening gluteal sepsis, or as an asymptomatic, reducible mass that distorts the gluteal fold. Small sciatic hernia can remain hidden behind the gluteus maximus muscle. The diagnosis requires imaging studies in such cases. Treatment of sciatic hernia is always surgical and requires prosthetic reinforcement for the best result.

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