

# Laparoscopic Hernia Repair—When Is a Hernia Not a Hernia?

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## ABSTRACT

A wide range of diagnoses can present as inguinal hernia. Laparoscopic techniques are being increasingly used in the repair of inguinal hernias and offer the potential benefit of identifying additional pathology. The authors present the first reported case of a hydrocele of the canal of Nuck diagnosed laparoscopically. We review the incidence of identifying additional pathology through laparoscopy for inguinal hernia repair. We suggest that in patients with atypical presenting features of a hernia, the transabdominal preperitoneal, rather than a totally extra-peritoneal, approach to groin hernia repair should be considered because of its greater diagnostic potential.

**Key Words:** Hernia, Peritoneal diseases, Laparoscopy.

## INTRODUCTION

A wide range of diagnoses can present as inguinal hernia, and there are published reviews summarizing these findings at open hernia repair.<sup>1-3</sup> Laparoscopic techniques are being increasingly used in the repair of inguinal hernia. Aside from confirming the primary hernia and finding additional unsuspected hernias,<sup>4</sup> laparoscopy offers the potential advantage of identifying other pathologies. Not only can pathology masquerading as a hernia be identified, but incidental problems unrelated to the presenting hernia may be recognized, although this has not been widely reported to date. We review the literature on unusual findings at laparoscopy for hernia repair and present the first reported laparoscopic identification of a hydrocele of the canal of Nuck, initially thought to represent a simple inguinal hernia.

## CASE REPORT

A 42-year-old woman presented to the outpatient department with a 1-month history of a painless groin swelling. It was more prominent during activity, improving at rest, and disappeared with the patient lying supine. She had a history of laparoscopic cholecystectomy but no other significant medical history. Her examination revealed a reducible, nontender, left groin swelling that was more prominent while standing and also demonstrated a positive cough reflex. Clinical diagnosis of a left inguinal hernia was made, and she was later admitted for elective laparoscopic hernia repair because of the risk of strangulation and because in women a femoral hernia must be excluded.

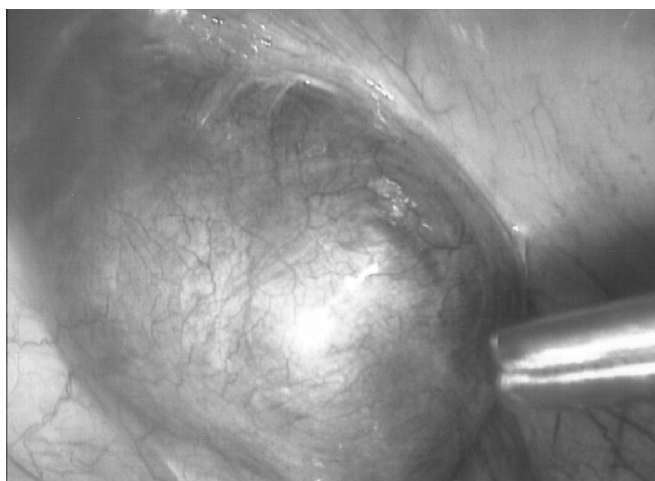
The patient was scheduled for a routine laparoscopic hernia repair via the transabdominal preperitoneal (TAPP) approach. At surgery, a cystic swelling was found at the left deep inguinal ring (**Figure 1**). No therapeutic procedure was performed. The patient underwent an ultrasound scan the following day, which demonstrated a fluid-filled cavity extending from the labia majora externally through to the pelvis. Magnetic resonance imaging (MRI) scan of the area showed a cystic structure with a 7-cm component in the left iliac fossa extending through the inguinal canal to a second collection anterior to the left

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**Figure 1.** Laparoscopic view of cystic swelling at the left deep inguinal ring.

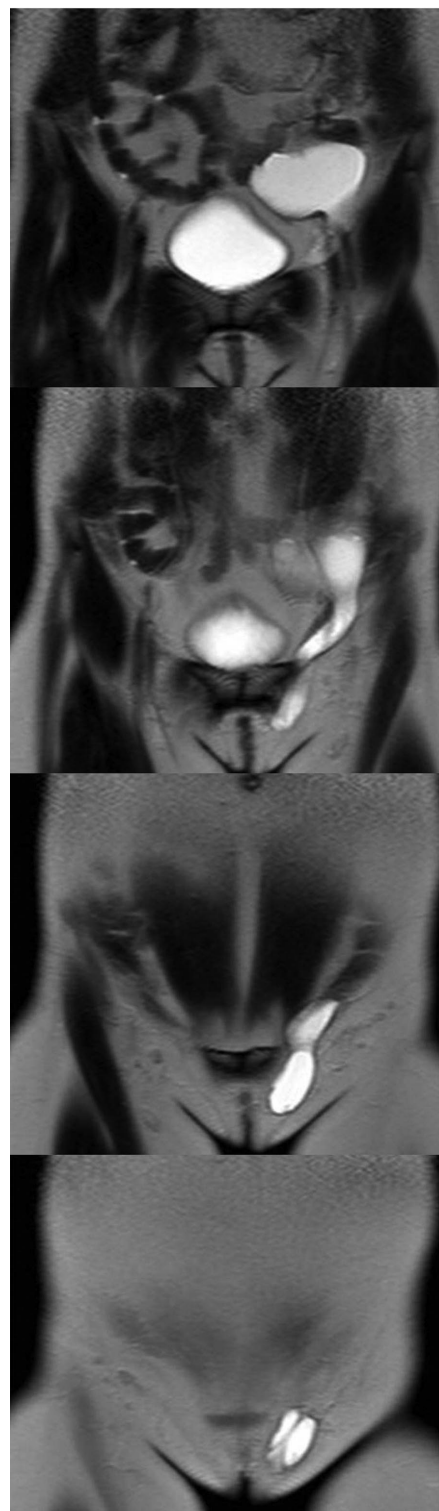
inferior pubic ramus, confirming the diagnosis of a large hydrocele of the canal of Nuck (**Figure 2**). The combination of both preperitoneal and subcutaneous components may be considered as indicative of the presence of a hernia. Repair is indicated via laparoscopic or open approach. This patient was offered, but declined, further surgery on the basis of minimal ongoing symptoms and a low risk of strangulation.

## DISCUSSION

Previously, diagnoses such as diverticular abscess, Meckel's diverticulum, perforated appendix, pancreatic pseudocyst, scrotal lipoma, and liposarcoma of the cord, among others, have been made at operation for inguinal hernia repair.<sup>1-5</sup> These have all been identified through open surgery. The open groin approach with laparoscopic assessment of the peritoneum (hernioscopy) has twice been used to successfully diagnose peritoneal metastatic disease.<sup>6,7</sup>

The laparoscopic approach to the preperitoneal space, and particularly transperitoneal laparoscopy, expands the range findings when operating for a suspected hernia. In addition to the presenting hernia, concurrent hernias on the ipsilateral side may be identified and are said to be present in 15.4% and 18% of patients with inguinal hernias when assessed by open groin dissection or laparoscopy (TAPP), respectively.<sup>8,9</sup> Concurrent contralateral hernias are identified by laparoscopy (TAPP) in 13% of patients with a suspected unilateral hernia.<sup>4</sup>

Incidental findings unrelated to the hernia may be made, although they have not yet been reported in the literature.



**Figure 2.** Magnetic resonance images of hydrocele of the canal of Nuck demonstrating a large intra-abdominal portion communicating through the inguinal canal with an external portion in the groin.

Alternatively, a groin lump thought to be a hernia may represent a different problem. We described the case of a hydrocele of the canal of Nuck masquerading as a left inguinal hernia in a middle-aged woman. This is a common way for such a problem to present<sup>10–13</sup> but is rare in women of this age-group.<sup>11</sup>

A review of 17 cases of hydrocele of the canal of Nuck confirms that clinical diagnosis is difficult because of the condition's rarity and similar presentation to inguinal hernias.<sup>13</sup> The diagnosis was only made preoperatively in 12% of cases. The finding of a cough impulse or apparent reducibility cannot be relied on to distinguish a hernia from a hydrocele. The most important differential diagnostic procedure was transillumination, but this is difficult when the hydrocele is small. A coexisting inguinal hernia was present in 41% of cases. Historically, treatment has been surgical and involves excision of the cyst with repair of any coexisting hernia. Although hydrocele of the canal of Nuck is by definition congenital and has been reported frequently in children, in 1 series the average age at presentation was 37 years.<sup>13</sup> The condition can therefore be asymptomatic for many years. Where the diagnosis has been confirmed with imaging and a coexisting hernia has been ruled out, the decision to offer surgery must be made on the basis of symptoms rather than any potential to cause harm.

In this particular case, the transabdominal approach enabled the lesion to be identified before dissection in the retroperitoneal plane. This avoided disrupting the hydrocele capsule and enabled further diagnostic tests to be performed and treatment options to be discussed. In this case, if the totally extraperitoneal technique had been used, it may have risked rupturing the hydrocele, thereby complicating further diagnostic tests and treatment. In hindsight, there were atypical features in the presentation such as minimal discomfort despite prominent clinical findings that could have indicated that the diagnosis of a straightforward inguinal hernia was uncertain.

Laparoscopic approaches to hernia repair offer the opportunity to confirm the diagnosis of suspected hernias and identify additional hernias (ipsilateral and contralateral), and they can demonstrate other causes of a lump and allow the possibility of incidental findings. We suggest that in patients with atypical presenting features of a hernia, the TAPP rather than the totally extraperitoneal

approach to groin hernia repair be considered because of its greater diagnostic potential.

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