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Laparoscopic resection of a retroperitoneal myolipoma presenting in a right inguinal hernia



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ABSTRACT

INTRODUCTION: Myolipoma of soft tissue is an extremely rare benign lipomatous lesion. The lesions are most commonly located in the abdominal cavity, retroperitoneum, and inguinal areas. Despite their large size, myolipomas are cured by surgical resection.

PRESENTATION OF CASE: We present the case of a 79 year-old man who presented with bilateral reducible inguinal hernias (right larger than left). After reducing the right inguinal hernia (RIH), the sensation of a palpable mass was noted in the right iliac fossa. CT scan suggested the content of the right inguinal hernia (RIH) to be small bowel mesentery and no other mass was noted in the right iliac fossa (possibly missed on CT scan).

DISCUSSION: A very large 1.8 kg retroperitoneal lipomatous lesion, measuring 22 cm × 16 cm × 8 cm, attached to the right spermatic cord was found and excised laparoscopically during a trans-abdominal pre-peritoneal (TAPP) approach to repair the hernias. The lesion was pathologically defined as a myolipoma.

CONCLUSION: The laparoscopic TAPP approach to repair inguinal hernias allows the surgeon to inspect the peritoneal cavity, and in this case it was possible to safely dissect and remove a large, lipomatous, retroperitoneal lesion laparoscopically. To the best of our knowledge, there are no reports of local recurrence, metastatic disease, or malignant transformation of myolipomas, and the laparoscopic approach to resect such a lesion has not been reported.

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1. Introduction

The most common benign tumor of the spermatic cord found during inguinal hernia repair in men is a lipoma.¹ However, myolipoma of soft tissue is an extremely rare benign lipomatous lesion, which was originally described in 1991 by Meis and Enzinger.² Myolipomas affect adults most frequently in the 5th and 6th decades of life with a female predilection (2:1 ratio).^{2–4} The lesions are most commonly located in the abdominal cavity, retroperitoneum, and inguinal areas.^{2–4} Less frequently, myolipomas may be found at sites such as the orbit, eyelid, breast, pericardium, anus and even the extremities.^{5–9}

We present a case of a large retroperitoneal myolipoma involving the spermatic cord, which was resected using a laparoscopic approach. To our knowledge, laparoscopic resection of a large

retroperitoneal myolipoma involving the spermatic cord during laparoscopic inguinal hernia repair has not been reported.

2. Presentation of case

A 79-year old gentleman presented to us complaining of worsening constipation. His medical history did not reveal any co-morbid conditions and he had no previous history of smoking or urinary problems. On physical examination, partially reducible bilateral inguino-scrotal hernias (right larger than left) were noted, which were present for more than 20 years. After reducing the hernias a mass was noted in the right lower quadrant of the abdomen. A barium enema failed to outline the entire large intestine, with the dye stopping at the sigmoid colon, which was contained within the left inguinal hernia (LIH). CT scan of the abdomen and pelvis showed large bilateral inguinal hernia sacs with bowel contents in the left sac and possible mesenteric fat in the right sac (Fig. 1). No gross colonic masses were detected on the CT scan.

Bilateral laparoscopic TAPP repair of the hernias was performed using a lightweight polyester mesh. Pneumoperitoneum was created by way of a 12 mm visiport access in the left supraumbilical region. This port was used for the laparoscope, with two 5 mm working ports at the left flank area and another at the right flank. All working ports were placed under direct vision using the principle of triangulation in relation to the areas of concern.

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Fig. 1. Transverse sections of CT scan showing bilateral inguinal hernias (right larger than left). Myolipoma on the right side (arrow), which was mistaken for small bowel mesentery.

On inspection of the pelvic area, the LIH was found to be sliding in nature involving the sigmoid colon. There was a large retroperitoneal mass noted on the right side, which was entering the deep ring of the right inguinal hernia (RIH) orifice (Fig. 2a and b). The RIH was approached first, developing the retroperitoneal plain using hydro-dissection followed by a mixture of blunt and sharp dissection with scissors and the Harmonic scalpel (Ethicon Inc.). A large lipomatous mass was dissected off the overlying peritoneum and spermatic cord structures. The mass measured 22 cm × 16 cm × 8 cm and weighed 1.8 kg (Fig. 3). The LIH sac was dissected in a similar fashion as the right side and both areas were covered with a lightweight polyester mesh, which was then covered with the previously dissected peritoneum. The right port site was then extended to 4 cm and the abdominal cavity was opened



Fig. 3. Photograph of lipomatous mass (gross specimen).

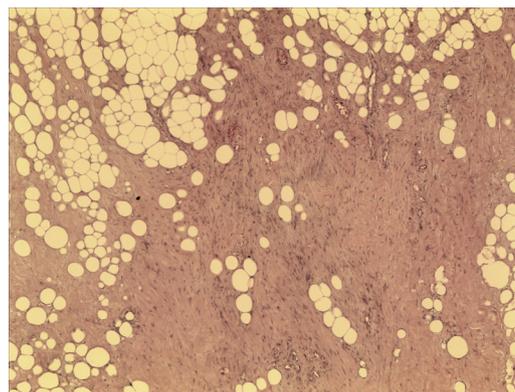


Fig. 4. Microscopic photograph (magnification power ×4) of the myolipoma, showing an admixture of mature adipose tissue and sheets of well-differentiated smooth muscle cells (stained with hematoxylin and eosin).



Fig. 2. (a) Photograph showing a laparoscopic view of the sigmoid colon entering the LIH orifice and the retroperitoneal mass entering the RIH orifice. (b) Photograph showing a laparoscopic view of the myolipoma being resected from the deep ring of the RIH orifice.

in layers by way of a muscle spreading technique. The lipomatous specimen was delivered through this opening, which was then closed in layers.

The cut surface of the specimen reveals a glistening yellow-white fibrous tissue and the microscopic evaluation notes an admixture of mature adipose tissue and sheets of well-differentiated smooth muscle cells (Fig. 4). The smooth muscle component is regular and interspersed between the adipose tissue, imparting a sieve-like appearance. The specimen shows no evidence of cellular atypia, with an overall histological picture typical of a myolipoma.

3. Discussion

Mesenchymal neoplasms of lipogenic differentiation are the most common soft-tissue neoplasms in adults.¹⁰ In recent years a number of “new” entities and variants have been described.¹¹ Their recognition is important to avoid diagnostic pitfalls and inappropriate therapy.¹⁰ Chondroid lipoma, myolipoma, and purely cutaneous spindle-cell/pleomorphic lipoma are biologically benign neoplasms, which may mimic sarcomas morphologically.¹⁰ Although retroperitoneal lipomas can contain subtle malignant foci, malignant transformation changes are exceedingly rare.¹²

Myolipoma of soft tissue, also called lipoleiomyoma, is extremely rare, benign, and was originally described as a distinct entity in 1991 by Meis and Enzinger.² Large retroperitoneal lipomas of the spermatic cord or retroperitoneal fat may appear similar to a myolipoma on gross examination.¹³ Therefore, these tumors can only be defined by histopathology. Sonobe et al. were first

to report a case of myolipoma associated with the contents of the inguinal canal, in that case the tumor was arising from the round ligament.¹⁴ The lesions are most commonly located in the abdominal cavity, retroperitoneum and inguinal areas.^{2–4} There are also reports of myolipoma found at less common sites such as the orbit, the eyelid, the breast, the pericardium, the anus and the ankle.^{5–9} Clinically, patients present with a soft-tissue mass or less commonly the lesions are incidentally discovered. The majority of lesions are large at initial presentation, ranging from 10 to 25 cm in size with a median size of 17 cm.^{2–4} Our patient presented with a large reducible RIH, which was found to be associated with a retroperitoneal lipomatous mass measuring 22 cm × 16 cm × 8 cm during laparoscopic TAPP repair.

There is only scant literature describing the radiologic appearance of myolipoma.⁴ The intrinsic features at sonography, CT, and MR imaging reflect the intermixed pathologic characteristics, with both prominent mature lipomatous components and poorly defined nonadipose areas representing smooth muscle. The nonlipomatous component reveals nonspecific solid intrinsic features with soft-tissue attenuation on CT scans and intermediate signal intensity on T1-weighted MR images and intermediate to high signal intensity on T2-weighted images. Coarse calcification has been reported in large lesions. These features suggest a well-differentiated liposarcoma, and the imaging appearance does not allow distinction between these lesions.¹¹ In our patient the CT finding was mistaken for small bowel mesentery.

The gross pathology of the tumor was that of a partially encapsulated lesion with a yellow to white appearance, as it is described in the literature.¹¹ Microscopic analysis demonstrates a variable admixture of smooth muscle and mature adult adipose tissue. Although the smooth muscle component often predominates, with a typical ratio of 2:1 (muscle to fat),¹⁵ the specimen from this case was predominantly adipose tissue. Likewise, the smooth muscle component is usually regularly interspersed with the adipose tissue, creating a “sievelike” appearance.¹⁵ The myolipoma is different from the regular lipoma as the latter is devoid of a smooth muscle component.¹³

During the last 2 decades, the surgical management of inguinal hernias has seen 2 major breakthroughs, which resulted in a significant decline in its recurrence rate and the decrease in postoperative pain and faster recovery. The first was the introduction of tension-free open mesh repair by Lichtenstein et al.¹⁶ in 1989. The second was the application of laparoscopic surgery in the treatment of inguinal hernia during the early 1990s,¹⁷ which was first reported by Ger et al.¹⁸ The TAPP approach was chosen in this case as it lends the opportunity to inspect the peritoneal cavity and better assess the nature of the palpable mass in the right lower quadrant after reducing the RIH.

Despite their large size, myolipomas are cured by surgical resection.¹⁵ This patients' large lipomatous lesion was safely dissected laparoscopically and bilateral TAPP repairs were performed.

4. Conclusion

The laparoscopic TAPP approach to repair inguinal hernias allows the surgeon to inspect the peritoneal cavity, and in this case it was possible to safely dissect and remove a large, lipomatous, retroperitoneal lesion laparoscopically. The lesion was

pathologically defined as a myolipoma. To the best of our knowledge, there are no reports of local recurrence, metastatic disease, or malignant transformation and the laparoscopic approach to resect such a lesion has not been reported.

Conflict of interest

None.

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None.

Ethical approval

Written informed consent was obtained from the patient for publication of this case report and accompanying images.

Author contributions

All the authors of this article contributed to the study design, data collection, data analysis and writing.

References

- Nasr AO, Torney S, Walsh TN. Lipoma of the cord and round ligament: an overlooked diagnosis? *Hernia* 2005;**9**:245–7.
- Meis JM, Enzinger FM. Myolipoma of soft tissue. *American Journal of Surgical Pathology* 1991;**15**:121–5.
- Liang EY, Cooper JE, Lam WW, Chung SC, Allen PW, Metreweli C. Case report: myolipoma or liposarcoma—a mistaken identity in the retroperitoneum. *Clinical Radiology* 1996;**51**:295–7.
- Guillou L, Coindre JM. Newly described adipocytic lesions. *Seminars in Diagnostic Pathology* 2001;**18**:238–49.
- Nagayama A, Miyamura N, Lu Z. Light and electron microscopic findings in a patient with orbital myolipoma. *Graefes Archive for Clinical and Experimental Ophthalmology* 2003;**41**:773–6.
- Sharara N, Lee WR, Weir C. Myolipoma of the eyelid. *Graefes Archive for Clinical and Experimental Ophthalmology* 1998;**36**:630–4.
- McGregor DK, Whitman GJ, Middleton LP. Myolipoma of the breast: mammographic, sonographic, and pathologic correlation. *Breast Journal* 2004;**10**:259–60.
- Ben-lzhak O, Elmalach I, Kerner H, Best LA. Pericardial myolipoma: a tumour presenting as a mediastinal mass and containing oestrogen receptors. *Histopathology* 1996;**29**:184–6.
- Lee YS, Park SE, Lee JU, Choi ES. MRI of a subcutaneous myolipoma in the ankle: a case report. *Korean Journal of Radiology* 2011;**12**:641–5.
- Mentzel T. Lipomatous tumors of the skin and soft tissue. New entities and concepts. *Pathologie* 2000;**21**:441–8.
- Murphey M, Carroll J, Flemming D, Pope T, Gannon F, Kransdorf M. Benign musculoskeletal lipomatous lesions. *Radiographics* 2004;**24**:1433–66.
- Singh G, Bharadwaj RN, Parandare SN, Gore CR, Dubhashi SP, Vaidya S, Patil S, Kompally GR. Giant retroperitoneal lipoma presenting as inguinal hernia. *Indian Journal of Surgery* 2011;**73**:187–9.
- Vashu R, Subramaniam M. Large lipoma of the spermatic cord presenting as post operative recurrent hernia in a middle age gentleman; a case report. *Cases Journal* 2009;**2**:8500.
- Sonobe H, Ohtsuki Y, Iwata J, Furihata M, Ido E, Hamada I. Myolipoma of the round ligament: report of a case with a review of the English literature. *Virchows Archiv* 1995;**427**:455–8.
- Weiss S, Goldblum J. *Benign lipomatous tumors*. Enzinger and Weiss's soft tissue tumors. 4th ed. St. Louis, MO: Mosby; 2001. p. 571–639.
- Lichtenstein IL, Shulman AG, Amid PK, Montllor MM. The tension-free hernioplasty. *American Journal of Surgery* 1989;**157**:188–93.
- Duluç JL. Traitement des hernies de l'aîne par la mise en place d'un patch prothétique par laparoscopie. Voi totalement extraperitoneale. *Cahiers de Chirurgie* 1991;**79**:15–6.
- Ger R, Monroe K, Duvivier R, Mishrick A. Management of indirect inguinal hernias by laparoscopic closure of the neck of the sac. *American Journal of Surgery* 1990;**159**:370–3.