Robotic assisted laparoscopic excision of a pelvic angiomyofibroblastoma-like tumor

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Angiomyofibroblastoma (AMF) is a rare benign tumor of the female genital tract. Three cases of AMF-like tumors of the male genital tract have been reported in the literature. We present the first documented case of an AMF-like soft tissue tumor of the male pelvis excised with robotic assisted laparoscopic surgery.

Key Words: angiomyofibroblastoma, robotic surgery

Introduction

Angiomyofibroblastoma (AMF) is relatively recent described rare benign tumor of the female genital tract affecting the vulvar region of young to middle-aged females.[1] Subsequently, similar tumors were reported in the male scrotum and inguinal region and thus termed AMF-like tumors.[2] Generally they present with painless groin and scrotal swelling and has benign course after excision.[3] To our knowledge, this is the first reported case of a male pelvic AMF-like tumor treated with robotic assisted laparoscopic excision.

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Case report

A previously healthy 69-year-old male presented with a 6 month history of sexual dysfunction with post

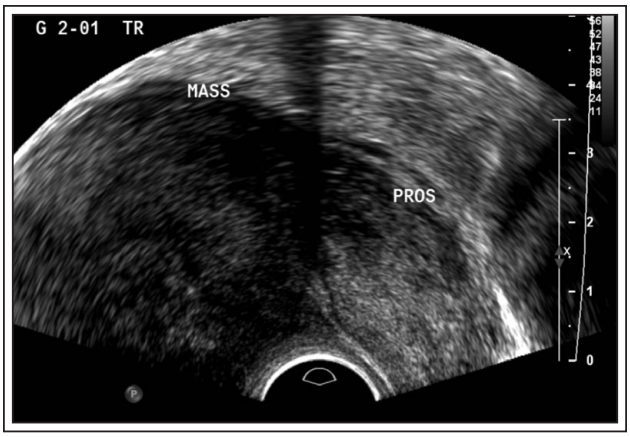

Figure 1. Transrectal ultrasound view.

coital perineal and scrotal pain. The patient had mild lower urinary tract symptoms. There were no reported episodes of hematospermia or gastrointestinal related symptoms. He did not have any fever and loss of weight. His examination of abdomen and genitalia was normal. He had no lymphadenopathy. His rectal examination showed mildly enlarged and tender benign prostate. Complete blood count and urine examination including microscopy and culture were normal. Transrectal ultrasound demonstrated a 7 cm solid and cystic mass in the pelvis adjacent to the prostate, right seminal vesicle and rectum with no obvious invasion into any of these organs, Figure 1. CT scan with double contrast was performed. It showed a solid mass measuring 7 cm x 5 cm x 3 cm with soft tissue enhancement and a fat plane separating it from the bladder, Figure 2, with no clear indication as to the origin of the mass. No other pelvic abnormality or mass effect was noted. A transrectal ultrasound guided biopsy was performed. It was non-diagnostic. Due to the size of the mass and its deep pelvic location adjacent to the prostate, robotic assisted laparoscopic excision was planned.

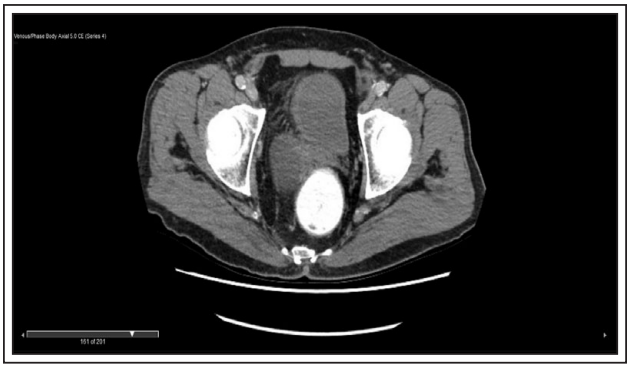

Figure 2. Axial CT showing the mass adjacent to rectum (opacified) and bladder.

Technique

Ureteric lighted fiberoptic stents were inserted at the start of the procedure. A four-port transperitoneal approach as described for robotic assisted laparoscopic prostatectomy was utilized with the da Vinci Robotic Surgical System (Intuitive Surgical, Sunnyvale, CA, USA).[1] The retroperitoneal space was entered by dividing the vas deferens and extending the peritoneal incision along the right lateral wall of the bladder posteriorly to the right seminal vesicle. The encapsulated mass was identified posterior and caudal to the right seminal vesicle. The endopelvic fascia was incised and the mass was dissected from the lower rectum and the prostatic apex. The mass was completely excised without the appearance of any contiguous attachments to the rectum or prostate. Recovery was uneventful with discharge on postoperative day 2.

Pathology

Grossly, the mass appeared fleshy and homogenous with a yellow-tan shiny cut surface. It was composed of bland spindle cells with alternating cellular and hypocellular areas embedded in a variably fibrotic, edematous and abundant stromal background. Blood vessels were small, thin walled and often ectatic. Chronic inflammatory cells predominantly lymphocytes and plasma cells were also features of this lesion. Significant atypia and mitotic activity were absent. Immunohistochemistry was positive for estrogen and progesterone receptor proteins while negative for desmin, actin, S100, EMA and S34, Figure 3. Patient's symptoms completely resolved with no evidence of recurrence after 1 year.

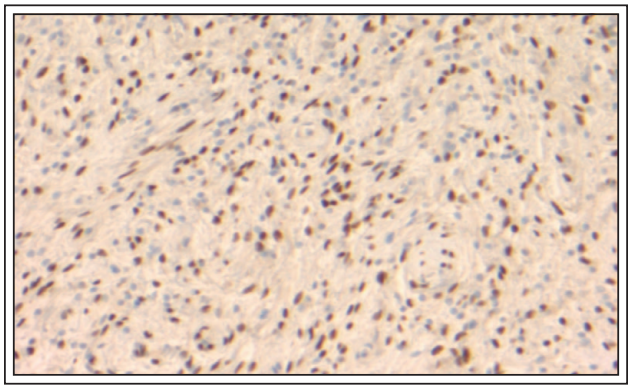

Figure 3. Estrogen receptor immunoperoxidase stain (dark brown staining of the nuclei (positive cells). Magnification 200 X.

Discussion

AMF is a rare benign tumor of the female genital tract identified by Fletcher[2] in 1992, who described AMF as a distinct, benign neoplasm which exclusively affected the vulvar region of young to middle-aged female patients. Subsequent reports appeared in the literature, which represented an expanding spectrum of this tumor in which myofibroblasts constitute an integral part. Tumors occurring in the extravulvar region with morphological and immunoreactivity differences from AMF were described as cellular angiofibroma by Nucci.[4] They were found to be similar to the 11 cases of AMF-like tumors described by Laskin[3] occurring in the male genital tract. The common feature among these mesenchymal tumors is that they are indolent and rarely recur.

Although some reports of scrotal and inguinal occurrence in males are published,[5,6] the entity is almost exclusively diagnosed in the vulvar, vaginal, or perineal areas of middle-aged women. Robotic surgery has been introduced in the last decade to facilitate prostatic and pelvic surgery. The advantages over conventional laparoscopy consist of three-dimensional imaging and articulating instruments improving visualization and dissection of tumors in small confined spaces like the male pelvis. The robotic assisted laparoscopic approach appears to benefit the patient requiring excision of a deep pelvic mass with less postoperative pain, a short hospital stay, and an early convalescence. □

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