

## Imaging Study in Female Voiding Dysfunction (IV): External Compression of the Lower Urinary Bladder by a Retroperitoneal Paravesical Leiomyoma

Jenn-Ming Yang, M.D.<sup>1,2</sup>, Shwu-Huey Yang, Ph.D.<sup>3</sup>, Wen-Chen Huang, M.D.<sup>2,4,5</sup>

Department of Obstetrics and Gynecology<sup>1</sup>, Taipei Medical University-Shuang Ho Hospital, Taipei, Taiwan; School of Medicine<sup>2</sup>, Taipei Medical University, Taipei, Taiwan; School of Nutrition and Health Sciences<sup>3</sup>, Taipei Medical University, Taipei, Taiwan; Department of Obstetrics and Gynecology<sup>4</sup>, Cathay General Hospital, Taipei, Taiwan; School of Medicine<sup>5</sup>, Fu Jen Catholic University, Taipei, Taiwan; E-mail: huangwc0413@hotmail.com

### BRIEF HISTORY

A 46-year-old woman (Gravida 2, para 2) was referred to our urogynecologic clinic because of acute urinary retention. Three years previously, she underwent a total abdominal hysterectomy for symptomatic uterine myoma. Within the last 3 months, she was frequently bothered by urinary frequency and nocturia.

### CLINICAL EXAMINATION

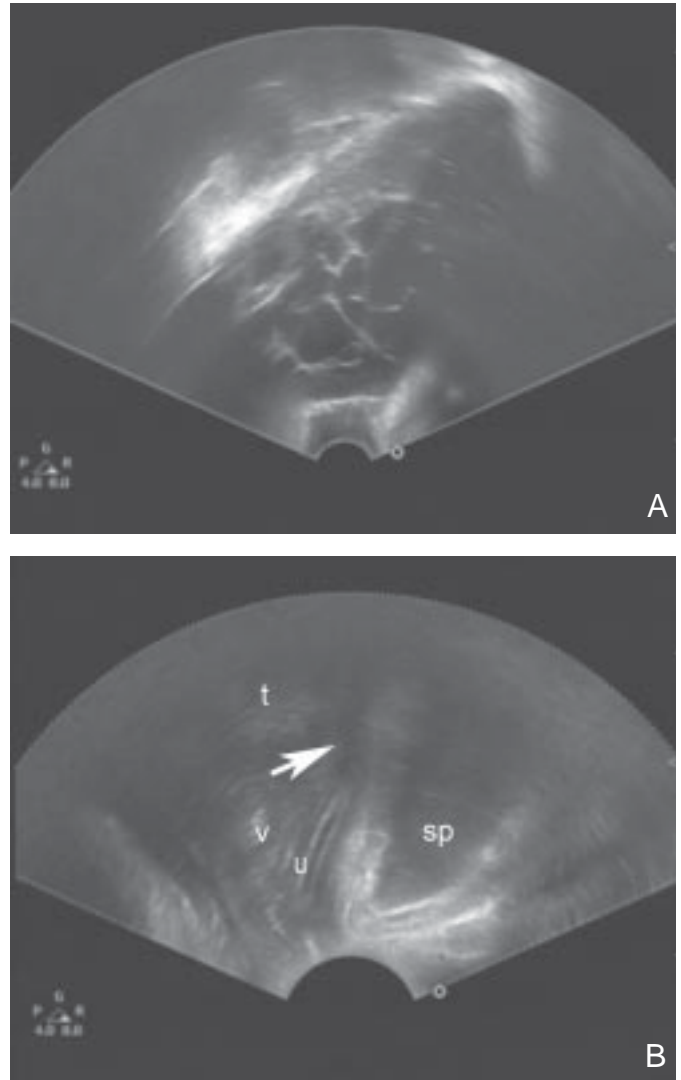
On physical examination, a palpable abdomino-pelvic mass was noted. The right fornix was compressed and bulged out by the mass. All blood parameters were normal including the serum tumor markers, namely, the carcinoembryonic antigen (CEA), cancer antigen 125 (CA-125), CA-199, and anti-squamous cell carcinoma antigen (SCC).

### IMAGING STUDIES

Transvaginal ultrasound identified a well-demarcated, ovoid-shaped mass locating in the pelvic cavity with a cranial extension to the suprapubic area. It measured approximately 16 cm by 13 cm. The mass lesion contained multiple internal thin septa and anechoic cystic areas (Fig. 1). The lower urinary bladder was compressed by the mass (Fig. 2). Computed tomography revealed a cystic mass, measuring 16 cm x 13 cm x 10 cm, with few solid components, locating in the right pelvic cavity with compression of the lower urinary bladder to the left side (Fig. 3). There were no ascites, regional nodal or distant metastasis.

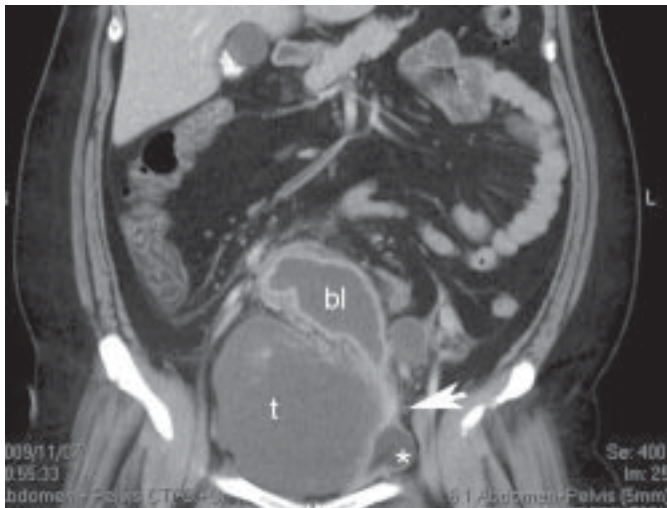
### SURGICAL INTERVENTION AND POSTOPERATIVE COURSE

At laparotomy, a pelvic mass was found to be located in the right paravesical space and attached to the pelvic floor. There was no demonstrable connection between the mass and the bladder. The mass, measuring up to 17 cm x 17 cm x 3 cm in size, was removed intact. The pathological examination revealed that the resected tumor was composed of smooth muscle cells and the major part showed yellowish gelatin and myxoid change. There was no mitotic activity and ovarian tissue could be found. In immunohistochemical studies, actin, desmin, vimentin, CD 34, S-100 protein, inlabin, and CD 117 were used. Tumor cells expressed positive reactions to actin, desmin, vimentin, and CD 34 while CD 117, inlabin, S-100 were negative. Histologically, the tumor was leiomyoma with myxoid change. On the 2nd postoperative day, transvaginal ultrasound demonstrated no compression of the lower bladder. The postoperative course was uneventful and the patient has had no complaint of voiding difficulty.



**Fig. 1.** (A) Transvaginal ultrasound demonstrates an abdomino-pelvic mass with an ovoid shape and multiple internal septa. (B) The lower urinary bladder (arrow) is compressed by the mass (t) against the symphysis pubis (sp). A Foley catheter is placed for acute urinary retention. (v = vagina; u = urethra)

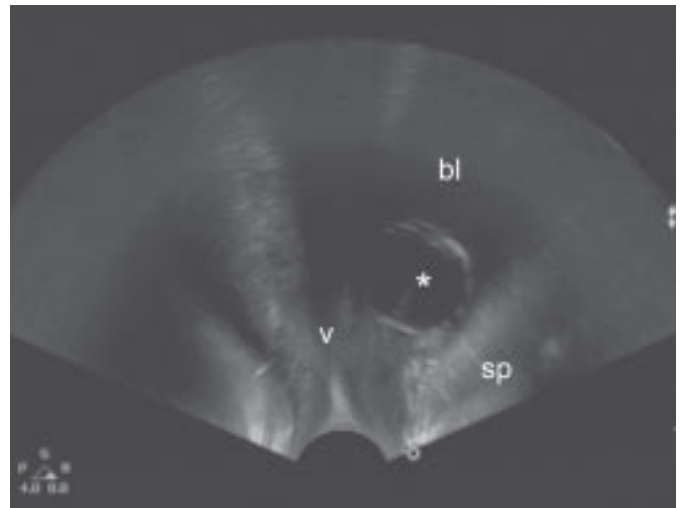
## Clinical pearls – Genitourinary tract image



**Fig. 2.** Computed tomography demonstrates an abdomino-pelvic mass (t) compressing the lower urinary bladder (arrow) to the left side. \* indicates the balloon of the Foley catheter. (bl = bladder)

### COMMENT

Leiomyoma is more frequently found in the fourth and fifth decades of life, and the uterine corpus is the most common site of location. Nevertheless, leiomyomas occasionally occur with unusual growth patterns or in unusual locations. Retroperitoneal leiomyoma may enlarge considerably with a median size of 12.0 cm (range 2.0-37.0 cm) and is locating mostly in the posterior retroperitoneum [1,2]. The common clinical feature of a retroperitoneal leiomyoma in the order is abdominal fullness (31.3%), asymptom (25%), urinary symptoms (18.8%), body weight loss (18.8%), and pelvic pain (18.8%). More than 40% of patients had either previously undergone a hysterectomy for uterine leiomyomata or had concurrent uterine leiomyomata [1,3]. Surgery was mostly curative with only 5 reported cases of recurrence, 3 of which were then considered sarcomatous [1,4].



**Fig. 3.** Transvaginal ultrasound on the 2nd postoperative day demonstrates no compression of the lower urinary bladder. \* indicates the balloon of the Foley catheter. The Foley catheter is clamped for the distension of the bladder (bl). (sp = symphysis pubis; v = vagina)

### REFERENCES

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