

Large Ovarian Cyst Mimics Acute Urinary Retention

Chung-Cheng Wang, M.D.¹, Jen-Jih Chen, M.D.¹, Chien-Hsun Huang, M.D.¹, Ming-Hao Chang, M.D.²

Department of Urology¹, Gynecology and Obstetrics², En Chu Kong Hospital and College of Medicine, National Taiwan University, Taipei, Taiwan;

E-mail: mhc4748@yahoo.com.tw

BRIEF HISTORY AND CLINICAL INVESTIGATION

An 87-year old woman visited our emergency room with chief complaints of frequency and urge incontinence for one week. She needed a diaper to keep her underwear dry. She did not have a history of surgery or trauma. She was physically healthy except for moderate distension of the lower abdomen. Trans-abdominal sonography showed a distended bladder (Fig. 1). However, a 14 Fr indwelling Foley catheter inserted into the bladder, drained only a minimal amount of urine. Results of urinalysis were within normal limits. Manual bladder irrigation with normal saline showed an un-obstructed Foley catheter. Abdominal and pelvic computed tomography (CT scan) showed a huge pelvic cyst with a suspected ovarian origin (Fig. 2). The tumor marker CA-125 was 19.9 U/mL (normal value <35 U/mL). Under sonography guidance, a 21-gauge needle was inserted into the cyst via the supra-pubic route and approximately, 700 mL of clear fluid was drained. This patient felt immediate relief of the distended abdomen. During a two month follow-up, no urge incontinence was noted.

COMMENT

Ultrasonography, a non-invasive, irradiation-free, fast and safe imaging technique, has become a common procedure to investigate the urinary bladder and adjacent pelvic organs. Trans-abdominal ultrasonography can be combined with the uroflow rate to provide useful information on bladder function. When evaluating functional bladder capacity, the patient should be scanned with a full bladder. Furthermore, a post-void bladder scan should be performed to assess residual urine. However, ultrasonography requires special skills and experience using different kinds of probes. The observer-dependent techniques have some pitfalls. For

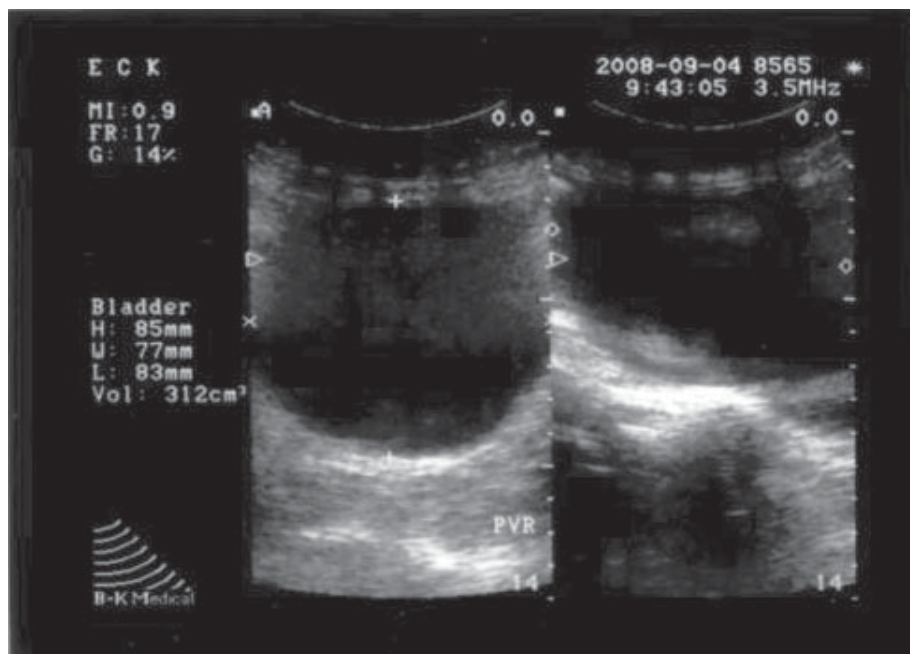


Fig. 1. Supra-pubic sonography showed a huge anechoic tumor which was suspected to be a distended bladder.

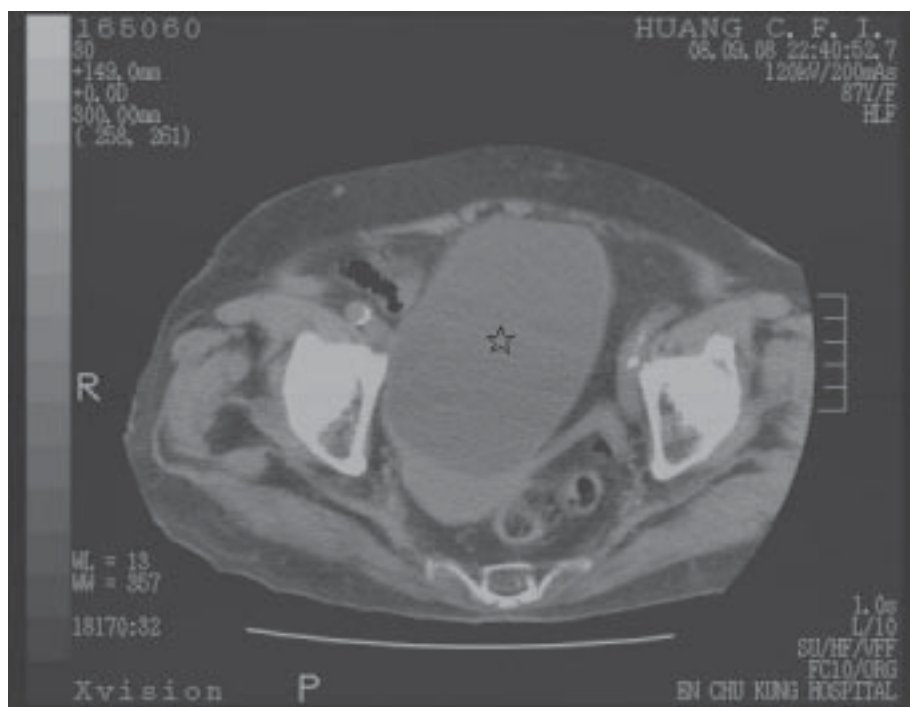


Fig. 2. CT scan showed a huge prolate spheroid ovarian cyst (star).

example, the anechoic image of a full urinary bladder could be similar to that of a huge ovarian cyst, as seen in this case. In addition, bladder ultrasonography does not distinguish the trivial differences between these two lesions. Thus, a repeat ultrasound after Foley catheterization is a good method to exclude the possibility of a distended bladder. In addition, a CT scan might be a good alternative image study in making a correct diagnosis. The urinary bladder has an oblate spheroid shape but an ovarian cyst has a prolate spheroid shape (Fig. 3).

The ovary is located in the peritoneal cavity. It is questionable whether a huge ovarian cyst can affect bladder function. To our knowledge, the relationship between the size of an ovarian cyst and the severity of lower urinary tract symptoms is not fully understood. Matsumoto et al reported on a 20 month-old girl who had urinary retention because of a 6.0 x 5.0 x 5.0 cm ovarian cyst [1]. Fowler et al showed that combined abnormal electromyographic activity of the urinary sphincter, voiding dysfunction and polycystic ovaries might be a syndrome resulting from progesterone depletion [2,3]. Yang and Huang have proposed a possible mechanism of acute urinary retention due to a large pelvic mass [4]. The impacted pelvic masses displaces the cervix superiorly and anteriorly, compressing the lower bladder,

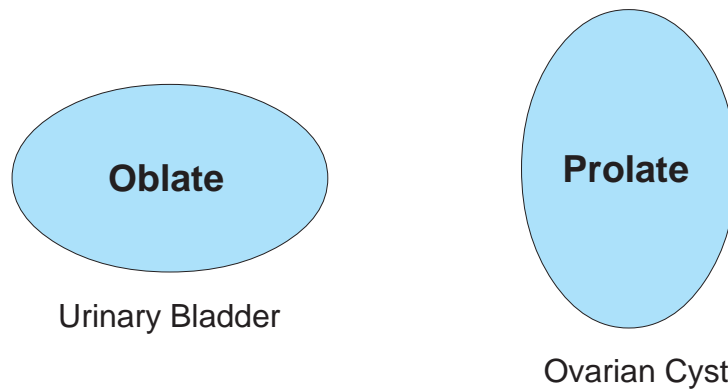


Fig. 3. The urinary bladder usually has an oblate spheroid shape on computed tomography. An ovarian cyst has a prolate spheroid shape.

leading to obstruction of the internal urethral orifice when patients are supine. But the obstruction is relieved when patients stand. Our patient had significantly improved bladder symptoms after decompression of the ovarian cyst. However, these case series do not provide enough evidence to prove the relationship between ovarian cysts and bladder symptoms. Further prospective study to compare bladder function before and after decompression or removal of an ovarian cyst is needed to clarify this controversial issue.

REFERENCES

1. Matsumoto M, Watanabe T, Uekado Y,

Ohkawa T: A case of urinary retention due to ovarian dermoid cyst in a female infant. *Hinyokika Kyo* 1993; **39**:85-87.

2. Fowler CJ, Christmas TJ, Chapple CR, Parkhouse HF, Kirby RS, Jacobs HS: Abnormal electromyographic activity of the urethral sphincter, voiding dysfunction, and polycystic ovaries: A new syndrome? *BMJ* 1988; **297**:1436-1438.
3. Swinn MJ, Wiseman OJ, Lowe E, Fowler CJ: The cause and natural history of isolated urinary retention in young women. *J Urol* 2002; **167**:151-156.
4. Yang JM, Huang WC: Sonographic findings of acute urinary retention secondary to an impacted pelvic mass. *J Ultrasound Med* 2002; **21**:1165-1169.