Incidental pelvic mass identified during ultrasound-guided transrectal needle biopsy of the prostate.

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Summary.- OBJECTIVES: Herein we report an additional case of a seminal vesicle cyst with ipsilateral renal agenesis and ectopic ureter in an asymptomatic individual with a normal examination.

METHODS: We review the literature on retrovesical mass regarding the embryology, evaluation, management and treatment.

RESULTS/CONCLUSIONS: Seminal vesicle cysts with ipsilateral renal agenesis and ectopic ureter may appear as an incidental mass by transrectal ultrasound.

Keywords: Pelvic mass. Seminal vesicle cyst. Prostate. Transrectal biopsy.

INTRODUCTION

Transrectal ultrasonography is routinely used to facilitate transrectal biopsy during the evaluation of prostate cancer. However, it is unusual to find extraprostatic pelvic pathology by transrectal ultrasound in an asymptomatic individual with a normal

Fig. 1.
examination. Herein we report the evaluation and management of an incidentally discovered retrovesical mass in a patient with clinically localized prostate cancer who underwent radical retropubic prostatectomy.

**CASE REPORT**

A 49-year-old man presented for urologic consultation with a serum PSA of 9.6 ng/ml and a right-sided prostate nodule (cT2a) on a digital rectal exam. He denied urinary tract infections or lower urinary tract symptoms. He had fathered 3 children. His examination was normal other than the prostate nodule. The urine analysis was normal. The serum creatinine was 1.5 mg/ml. He underwent transrectal ultrasound, which demonstrated a 6-cm cystic mass at the base of the prostate between the bladder and the rectum and lateral to the bladder neck. The right seminal vesicle appeared to be contiguous with the mass. Prostate biopsy confirmed Gleason 3+3 adenocarcinoma (UICC 97). To further evaluate the pelvic mass, a CT scan of the abdomen and the pelvis was performed. This showed a solitary left kidney and a lobulated cystic mass between the bladder and the rectum (Fig. 1). The right hemi-trigone and ureteral orifice were absent on cystoscopic examination. The surgical approach was that used for retropubic prostatectomy. After the space was seen crossing the iliac vessels. The ureter was followed proximally to where it ended just above the pelvic brim. Attached to it was a 1.5-cm dysplastic renal remnant. As the prostate was retracted cephalad, the right seminal vesicle was seen to be in continuity with the mass. Figure 2 demonstrates the operative findings. The cystic mass was the dilated, tortuous distal right ureter ectopically draining into the right seminal vesicle. The dysplastic kidney and ureter were resected en bloc with the prostate and seminal vesicles.

**DISCUSSION**

Herein we report on a case of a dysplastic kidney, which drained ectopically into the right seminal vesicle, presenting as an incidental cystic pelvic mass found at the time of transrectal ultrasound. Fuselier et al reviewed 20 patients with an ectopic ureter into the seminal vesicle and ipsilateral renal agenesis. Patients most often present during their early reproductive
years with lower urinary tract symptoms, epididymitis, hematuria and infertility, and exceptionally is found as a huge abdominal mass (4). Some authors have found perineal discomfort to be the most common symptom in vesicle cyst (6). Less commonly, patients are asymptomatic and the anomaly is found by a mass on a digital rectal exam as the case herein reported. Findings in all patients are absence of the ipsilateral ureteral orifice and hemi-trigone in cystoscopy. The patient presented herein was completely asymptomatic and the anomaly was found incidentally when a transrectal ultrasound was performed as part of the evaluation of an elevated PSA. The nodule on the right side of the prostate likely reflected prostate cancer which was confirmed pathologically. The right ureter and renal remnant were excised at the time of retropubic prostatectomy with little additional time and effort.

A review of genitourinary embryology explains this anatomic malformation. The mesonephric duct gives rise to the ureteral bud near its junction with the cloaca at approximately 6 weeks of gestation. Initially, the ureter and Wolffian duct enter the cloaca through a common excretory duct. The seminal vesicles arise from an outpouching of the mesonephric duct at 12 to 13 weeks near the site where the ureteral bud arose. Differential growth produces separation between the ureters and seminal vesicles, such that the seminal vesicles take a more medial and caudal position, draining into the area of the urogenital sinus, which ultimately becomes the ejaculatory duct and prostatic urethra. When this separation fails to occur, the ureter may remain attached to one of the derivatives of the mesonephric duct including seminal vesicles, vas deferens, or epididymis. Dysgenesis of the kidney results from incomplete development of the ureteral bud which fails to induce development of the metanephric blastema (2).

Differential diagnosis must be established among other causes of retrovesical mass. These may be congenital and acquired, the former being the most common. Although the final diagnosis requires histopathological study, the anamnesis, physical examination and imaging findings may lead to the presumptive diagnosis. If the ultrasound studies reveal a cystic mass, diagnosis may be established upon its localization in regard to the bladder neck (3, 6). A cystic extraprostatic mass lateral to the bladder neck may be a seminal vesicle cyst, hydrops, ectopic ureter or an ectopic ureterocele. A cystic mass medial to the bladder neck indicates prostatic urticle cyst, prostatic abscess or prostatic urticle empyema.

Image studies always must be done in order to rule out either urogenital upper tract anatomic malformations or exceptional malignancies such as myxoid liposarcoma, malignant fibrous histiocytoma, hemangiopericytoma and leiomyosarcoma. These studies include IVP and CT scan vs MRI and, in some special circumstances, barium enema and seminal vesiculography. CT scan and MRI are the best radiographic studies to achieve accurate imaging diagnosis and are mandatory when the ultrasound reveals solid mass.

The seminal cysts require treatment only if symptomatic or if associated malformations are present. Most of the seminal cysts are congenital and congenital malformations, such as ipsilateral renal agenesis and ectopic ureter, occur in two-thirds (66%). Some authors have reported laparoscopic excision of the seminal vesicle cyst (5). When an empyema or abscess is proven, drainage is mandatory. When the ultrasound studies reveal solid mass, a laparotomy may be necessary in order to establish the diagnosis (3).

**CONCLUSIONS**

Seminal vesicle cysts with ipsilateral renal agenesis and ectopic ureter may appear as an incidental mass by transrectal ultrasound studies. Management of retrovesical mass includes urogenital upper tract image studies in order to rule out congenital malformations.

**REFERENCES AND RECOMMENDED READING** (*of special interest, **of outstanding interest)