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Case Report

Ectopic prostate tissue presenting as a giant pelvic mass with seeding nodules[☆]

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ABSTRACT

We report a case of ectopic prostate tissue presenting as multiple lesions resembling a giant pelvic mass with seeding nodules. A 60-year-old man was admitted to the general surgery department of our hospital with an incidentally discovered pelvic mass on computed tomography performed at an outside hospital. The computed tomography scan showed a well-demarcated heterogeneous enhancing mass of 14 cm on the right side of the urinary bladder, and other similarly small nodules were observed in the pelvic cavity and perianal area. Physical examination showed a palpable mass in the suprapubic area; however, the patient did not complain of urinary system symptoms. Laboratory examination showed an elevated level of prostate-specific antigen (12.18 ng/mL). Suprapubic incision and mass resection were performed. The surgeon removed two of the masses and dissected the pelvic lymph nodes. Pathological examination confirmed that both masses were ectopic prostate tissues, and focal adenocarcinoma (<5%) was noted in the largest mass (Gleason score, 3 + 3 = 6). The Prostate-specific antigen level returned to normal postoperatively.

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Introduction

Ectopic prostate tissue (EPT) is a relatively uncommon entity that has been reported at various sites within and outside the genitourinary system [1]. In previous studies, EPT was shown to form a single lesion [2–4]. To our knowledge, this is the first case describing EPT presenting as multiple lesions that appeared like a giant pelvic mass with seeding nodules on CT examination.

Case report

A 60-year-old man was admitted to the general surgery department of our hospital with an incidentally discovered pelvic mass on computed tomography (CT) performed at an outside hospital. The radiological diagnosis was pelvic gastrointestinal stromal tumor (GIST) with multiple seeding nodules. The patient's medical history included diabetes, hypertension, dyslipidemia, and chronic gastric ulcer disease, so he had been taking medicines for these conditions. The

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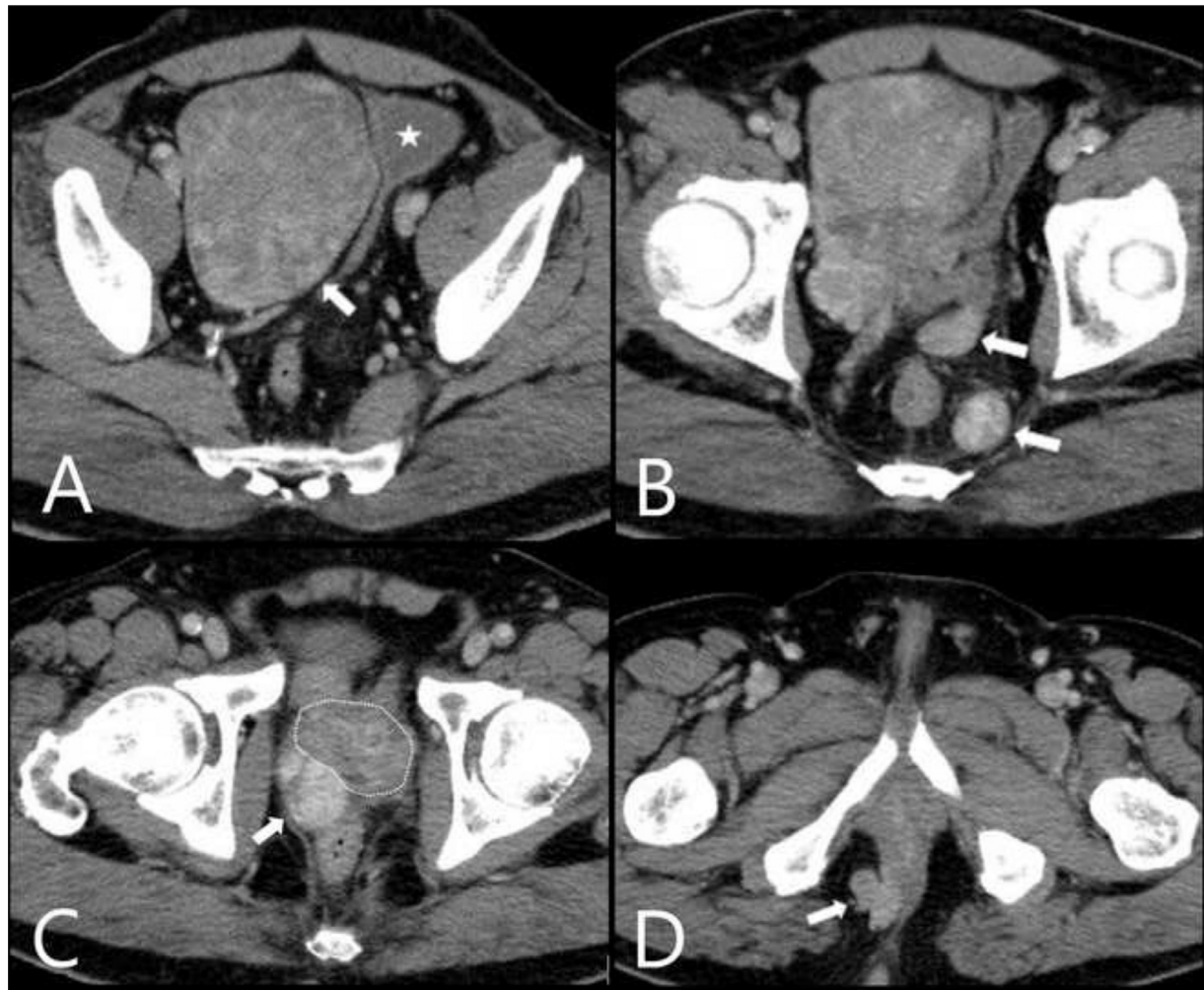


Fig 1 – An axial contrast-enhanced CT (CECT) scan shows a heterogeneous contrast-enhanced mass (A, arrow) 14 cm in diameter on the right side of the urinary bladder (A, star). Other similarly small nodules are noted posterior to the seminal vesicle (B, anterior arrow), in the left sciatic region (B, posterior arrow), right posterolateral aspect of the prostate (C, arrow), and the perianal area (D, arrow).

patient had never undergone surgery. Physical examination revealed a palpable round, hard mass in the suprapubic area, but the patient did not complain of urinary system symptoms. Laboratory studies revealed elevated prostate-specific antigen (PSA; 12.18 ng/mL, normal: 0–4 ng/mL), glucose, triglyceride, and low-density lipoprotein (LDL) cholesterol levels. A CT scan demonstrated a well-demarcated heterogeneous contrast-enhancing 14-cm mass on the right side of the urinary bladder (Fig. 1A). The mass displaced the urinary bladder to the left and compressed it. The lower part of the mass was in contact with the prostate gland. Other similarly small nodules were observed near the largest mass, the right posterolateral aspect of the prostate, posterior to the seminal vesicle, the left sciatic region, and the perianal area (Fig. 1B–D). These were 1.2–3.3 cm in size. Suprapubic incision and mass resection were performed to confirm the diagnosis and facilitate tumor debulking. The surgeon removed 2 of the masses and dissected the pelvic lymph nodes. The sizes of the masses were 14 × 10 × 7 cm and 3.3 × 2.5 × 2.5 cm. Grossly, the masses were firm, elliptical and well-circumscribed. On the cut sur-

face, the largest mass showed a yellowish-gray trabeculated lesion in the center and a yellowish myxoid area at the periphery (Fig. 2A). Microscopic and immunohistochemical examinations revealed prostate glands in both masses (Fig. 2B, C), and focal adenocarcinoma (<5% of total volume) was noted in the largest mass (Gleason score, 3 + 3 = 6) (Fig. 2D). None of the dissected pelvic lymph nodes showed evidence of tumor metastasis. Postoperatively, the PSA level returned to normal at 2.92 ng/mL. The postoperative course was uneventful, and the patient was discharged. At the 3-month follow-up CT scan, no change was observed in the size of the unresected residual nodule.

Discussion

EPT is a relatively uncommon entity that has been reported at various sites within and outside the genitourinary system [1]. It is most commonly encountered in the lower male geni-

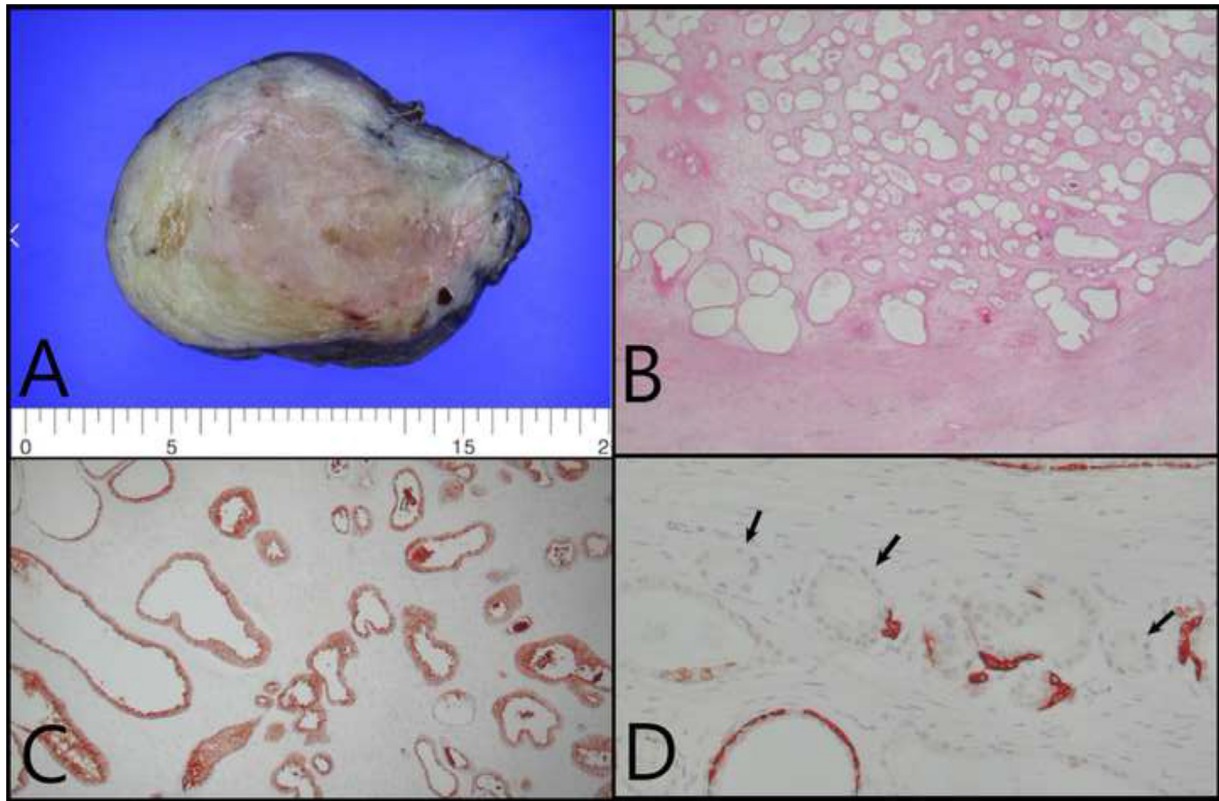


Fig 2 – A. A specimen of the largest ectopic prostate tissue was elliptical and well-circumscribed. It was 14 × 10 × 7 cm in size. **B.** Microscopic examination showed prostatic glands (hematoxylin and eosin [H&E] stain, x10). **C.** Immunohistochemical staining showed dilated glands that were positive for PSA (X40). **D.** High molecular weight cytokeratin (34Be12) staining showed loss of basal cells in the adenocarcinoma (arrows, X200).

tourinary tract [2]. It is also observed in the testis [3], seminal vesicle [4], uterine cervix, and vagina [5]. Very few cases involving EPT in the retro vesical space, spleen, rectum, anal canal, or pericolic fat have been reported to date [1,6].

The etiology of EPT remains unclear. Numerous theories have been proposed, including migration and misplacement of normal tissue, persistence of embryonic remnants, metaplastic changes caused by chronic inflammation, and seeding of viable tissue to the rectum during surgery or biopsy [1,6]. Various symptoms present with EPT depending on its location, including hematuria, urethral obstruction, and rectal bleeding. However, the majority of cases of EPT reported to date described incidental findings, as in our case.

Generally, resection is not indicated for asymptomatic and benign EPT, but this tissue is a source of PSA and, in rare cases, it is accompanied by primary prostate cancer [7]. In our case, focal adenocarcinoma was found in less than 5% of the total volume of the largest mass. Therefore, we carefully predicted that the unresected nodules were benign EPT since only a small amount of adenocarcinoma was found in the largest mass, no malignant cells were found in the other resected mass, the PSA level returned to normal after surgery, and there was no pelvic lymph node metastasis.

Histologically and immunohistochemically, EPT is indistinguishable from normal prostatic tissue. Radiologically, EPT is difficult to interpret because of its rarity, and there are no typi-

cal CT findings known to date. We also considered this case to involve several kinds of tumors, such as leiomyomatosis, lymphomatosis, and gastrointestinal stromal tumor, but it was somewhat different from malignant lesions in that each lesion was well defined.

To our knowledge, this is the first case of EPT presenting as multiple lesions resembling a giant pelvic mass with seeding nodules.

Conclusions

The experience and knowledge of EPT are important because EPT should be differentiated from other pelvic tumors, and it can be an unexpected site of primary prostatic adenocarcinoma.

Patient consent

Consent for publication has been obtained.

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