

Prostatic Abscess: CT and Sonographic Findings

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The value of CT and sonography in the diagnosis and follow-up of abscesses of the prostate was studied in six patients with this disease. Five had CT alone, one had CT and sonography, and one had sonography only. CT findings included an enlarged gland with nonenhancing fluid-density collections that sometimes were multiseptated or had enhancing rims. Sonographic findings were similar, showing a hypochoic mass with thick walls. Follow-up examinations after antibiotic therapy (one CT, one sonogram) showed improvement or resolution.

In the patients studied, CT and sonography were useful methods to detect and follow the course of prostatic abscess.

The prostate is a relatively uncommon site of abscess formation. However, the misdiagnosis or incomplete treatment of an abscess in this location can result in serious or even life-threatening complications [1, 2]. Therefore, prompt and accurate diagnosis is essential [3]. Signs, symptoms, and physical findings of prostatic abscesses often are nonspecific [4]. We present six cases of prostatic abscess that were detected on CT and/or sonography.

Materials and Methods

From March 1983 to March 1986, six patients suspected of having a prostatic abscess were referred to Albert Einstein College of Medicine for CT and/or sonography. The patients' age range was 29–77 years. Clinical findings included fever, dysuria, enlargement and/or tenderness of the prostate, and suprapubic pain. Two patients were IV drug abusers, one had diabetes, and one had had transurethral resection of the prostate. Urine cultures were positive in five of the patients; *Escherichia coli* was the most common organism found.

Five patients underwent CT in the supine position on a GE 8800 scanner. Axial sections 5-mm thick were obtained after the administration of IV contrast material. Another patient underwent perineal sonography via a 3-MHz transducer on an ATL MK600. One patient had both CT and sonography at presentation and then a follow-up sonogram. Follow-up CT scans were obtained in another patient. Hospital records, including clinical history, laboratory data, and surgical and pathologic reports, were reviewed for all six patients.

Results

All five cases of prostatic abscess had well-defined areas of low attenuation on CT (–19 to 13 H) after administration of IV contrast material. CT showed symmetric enlargement of the prostate in three patients and asymmetric enlargement in one. All lobes were affected, but the left was involved most commonly (four patients). One patient had a single abscess with incomplete septations (Fig. 1), and another had a single, septated abscess (Fig. 2A). Sonographic findings in the latter patient were similar to CT findings (Fig. 2B), and a follow-up sonogram showed decreased size of the abscess after 1 week. Multiple abscesses were found on CT in two patients (Fig. 3A). In one of these, follow-up CT showed nearly complete resolution

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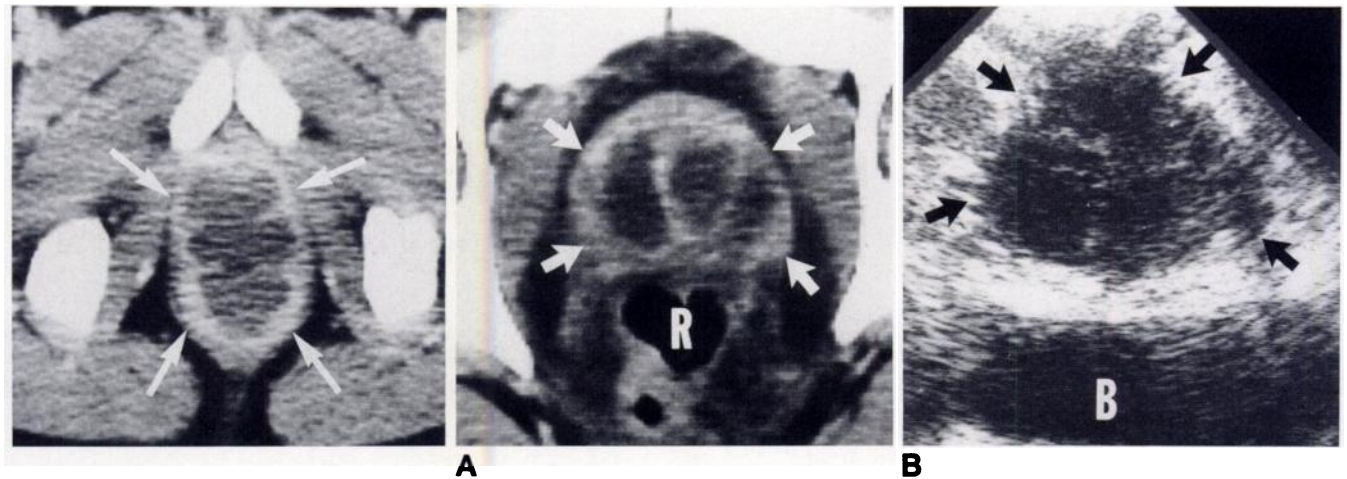


Fig. 1.—Prostatic abscess in a 29-year-old man with fever, dysuria, and urinary tract infection. CT scan at level of prostate shows an enlarged gland with a partially septated fluid collection with enhancing rims (arrows).

Fig. 2.—Prostatic abscess in a 37-year-old drug abuser with urinary tract infection. **A**, CT scan shows multiseptated abscess in the prostate (arrows). **R** = rectum. **B**, Transverse perineal sonogram at same level as **A** shows three corresponding anechoic areas within the prostate (arrows). **B** = bladder. Follow-up sonogram 1 week later showed smaller but persistent anechoic areas.

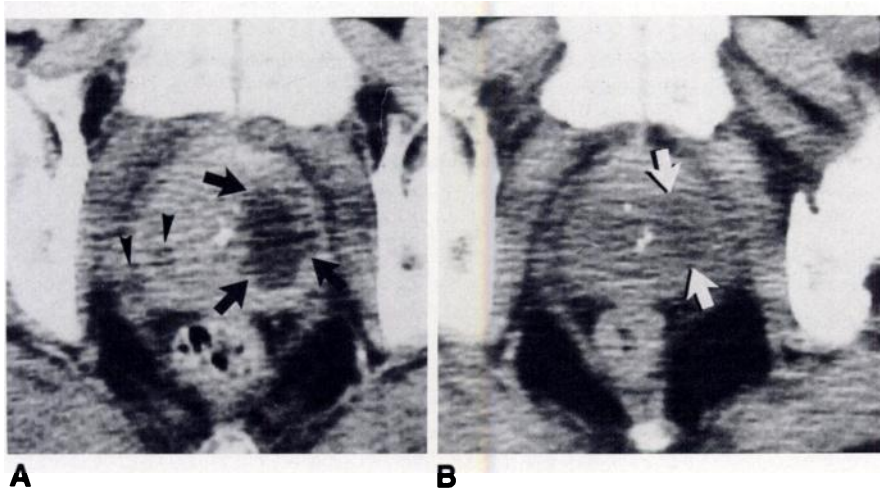


Fig. 3.—Prostatic abscesses in a 75-year-old diabetic man with urinary tract infection.

A, CT scan at level of prostate shows three abscesses: one large well-defined hypodense area in left lobe (arrows) and two smaller ones on right (arrowheads).

B, Follow-up CT scan obtained 2 weeks later shows resolution of abscesses in the right lobe and decrease in size of abscess in left lobe (arrows).

after 2 weeks (Fig. 3B) and complete resolution after 2 years. Enhancing rims around abscesses were seen on CT in two patients, and one patient had an abscess in the seminal vesicle. Prostatic calcifications were detected incidentally in one patient (Figs. 3A and 3B). In the one patient who had sonography only, a single multiseptated abscess was found in the left lobe.

Discussion

The use of CT in the diagnosis of prostatic abscess has been described [5, 6], and sonographic findings in prostatic abscess have been alluded to [7]. We present additional data to show that CT and sonography are useful in the diagnosis of this disease. The progress of the abscess can be followed, as shown in two of our patients. Nearby organs also can be examined for contiguous spread of infection.

Iv pyelography is nonspecific in regard to prostatic abscess [8]. Scintigraphy with ^{67}Ga -citrate has been discussed in two

cases of prostatitis [9], but abscesses cannot be excluded by this method, and imaging requires 3 days. The role of MR imaging in prostatic abscess has not been determined yet. CT and sonography are easily performed, have widespread availability, and provide specific information.

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