Transrectal ultrasound guided aspiration of a prostatic abscess
Published on 21.07.2005

DOI: 10.1594/EURORAD/CASE.3640
ISSN: 1563-4086
Section: Uroradiology & genital male imaging
Case Type: Clinical Cases
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Patient: 80 years, male

Clinical History:
An elderly caucasian man presented to the emergency department of our hospital with dysuric symptoms. Imaging techniques (ultrasound and computed tomography scan) helped us not only reveal the lesion but (in our case with the use of transrectal ultrasound guided aspiration) even contribute to its cure.

Imaging Findings:
An elderly Caucasian male aged 80 presented to the emergency department of our hospital reporting dysuric symptoms. On clinical examination tenderness of the perineum and an enlarged, tender and warm prostate were found. Laboratory analysis showed high blood glucose levels and numerous leukocytes in urine. On the transabdominal U/S scan (fig 1), the prostate was found to be enlarged, thick-walled and hypoechoic with areas of different echogenicity. The abdominal CT scan confirmed the U/S scanning findings. The prostate was enlarged, with interior fluid-density material and thick ragged wall (fig 2,3). The viable parenchyma showed increased enhancement after intravenous injection of contrast material. After the consensus of patient and counselling from the referring urologist were obtained transrectal aspiration was performed. Using transrectal ultrasound it was found that most of the gland was replaced by an ill defined mass with cystic areas filled with intermediate echogenicity material (fig 4). These contents were seen to swirl during manipulation of the probe. The power color Doppler examination did not show any vessels with flow. The radiological findings and the clinical examination suggested prostatic abscess. Using the canulla of the biopsy needle, 18G diameter, 60ml of a yellowish-green purulent fluid were extracted and sent for laboratory analysis. Antimicrobial therapy was started (cephalosporin) which was appropriate for the bacteria found (escherichia coli). The following days the patient's condition was complicated by a local infection of the perineum which was treated uneventfully with surgical drainage and antimicrobiotics. The patient was discarded 6 days later without signs of an active infection or dysuria.

Discussion:
Prostatic abscess is an infrequent entity. Causative organisms are usually Gram-negative rods but Gram-positive and anaerobic bacteria can also found. The patients present with pain on digital examination, dysuria, urinary frequency, perineal pain, acute urinary retention, hematuria, and may also be febrile. When symptoms persist despite therapy with antibiotics, a prostatic abscess should be suspected. Imaging modalities play an important role in the diagnosis and management of prostatic abscess. On the abdominal U/S scan the movable, gravity-dependent content at the center of the gland is typical and it shows reduced reflectivity with inhomogeneous appearance at adjacent areas. These findings can be confirmed on the CT scan and one would see loculated fluid-density material centrally which does not enhance, contrary to the solid component of the gland which shows increased contrast.
enhancement. Therapeutic options include a transrectal U/S guided aspiration for drainage. This is usually successful although it carries a small possibility of bleeding and spreading of the infection. The transperineal U/S guided aspiration is recommended in older patients, in emergency situations such as sepsis and in patients with a high risk for surgery. Performing this type of intervention carries the risk of causing impotence to the patient due to nerve damage. The transurethral resection is useful but with an increased risk of sepsis. It could be complicated by retrograde ejaculation, urethral stricture and urinary incontinence and haematogenous spread of the infecting microorganisms.

**Differential Diagnosis List:** Prostatic abscess.

**Final Diagnosis:** Prostatic abscess.

**References:**

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Int Braz J Urol. 2003 Jan-Feb;29(1):30-4. Related Articles, Links
Diagnosis and treatment of prostatic abscess.
Figure 1

Description: Fig 1. Transabdominal ultrasound of the prostate gland, with longitudinal and transverse sections, reveals enlargement of the gland with a few highly reflective internal echoes. Its volume is estimated to be 78ml. Origin:
Description: Fig. 2. Axial CT at the upper level of the prostate gland after IV contrast administration confirms the enlargement of prostate protruding in the bladder and shows an enhancing ring. Origin:
Figure 3

Description: Fig. 3. Axial CT at the center of prostate gland. The gland is enlarged and most of its parenchyma is replaced by low density lobulated material. The gland abuts the obturator internus muscle (oi). The right levator anus muscle (la) is thickened. Origin:
Description: Fig 4. TRUS of prostate gland in transverse section. Most of the gland is replaced by an ill defined mass with cystic areas filled with material of intermediate echogenicity. These contents were seen to swirl during manipulation of the probe. The image shows the biopsy needle (arrows) entering the periphery where there is still some parenchyma. In the left image, in spite of the use of increased gain settings during the power color Doppler examination, no flow was depicted in the central area. A vessel (arrow) is displayed in the compressed peripheral zone. Origin: