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Prostate Calculi Causing Crepitus on Physical Exam

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Abstract

Crepitus on digital rectal examination is a rare physical exam finding, but can be clinically concerning in a patient with infective symptoms and may prompt extensive workup for severe infection with a gas-forming organism. Historical urologic literature suggests that this finding typically relates to large prostatic calculi, however. Here we present a case of significant prostatic stone burden in a symptomatic patient causing crepitus in the prostate on physical exam.

Keywords: ***Prostate; Calculi; Crepitus***

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Case Report

A 73-year-old man presented to the Emergency Department for urinary incontinence, hematuria, fever, and syncope. White blood cell count was elevated at 13.4 and physical exam revealed crepitus in the prostate on digital rectal examination, prompting clinical concern for emphysematous cystitis or colo-vesicular fistula. Prostate specific antigen (PSA) was 0.22 ng/mL (normal range 0-4).

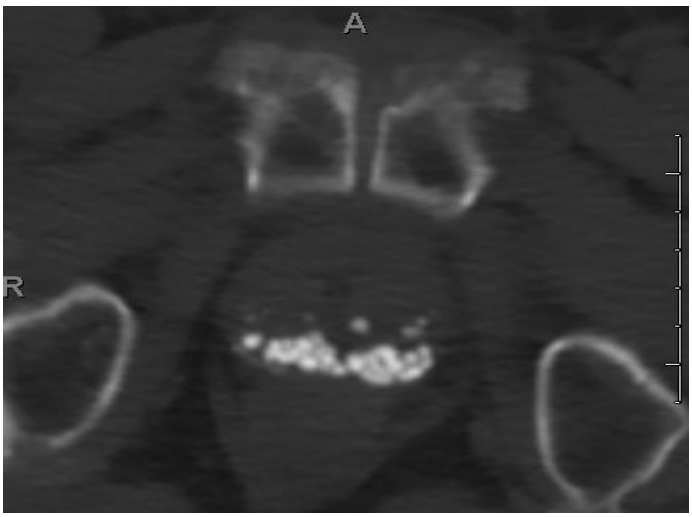

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Figure 1: Axial CT scan of the pelvis for a 74-year-old male in bone window (5 mm slices) with Foley catheter in the urethra. Multiple rounded calcifications (calculi) located posteriorly.

Computed tomography of the abdomen and pelvis showed no acute abnormality, but did demonstrate a significant burden of large prostatic calculi. These were felt to be the source of apparent crepitus on physical exam. During the course of hospital admission, initial blood cultures grew Pseudomonas aeruginosa, while urine cultures were negative. He was treated with a course of antibiotics for presumed prostatitis and responded well.

The prostate contained innumerable calculi (arrow), leading to the physical exam finding of crepitus (Figure 1- Figure 4).

Figure 2: Pelvic X-ray of 74-year-old male demonstrate multiple calcifications (calculi) projecting over the prostate.

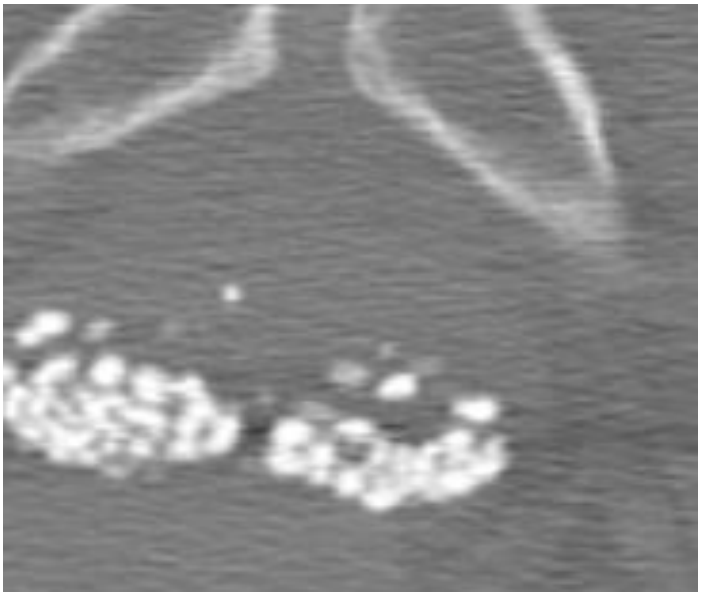

Figure 3: Axial CT scan of the left hip joint of 74-year-old male (2 mm slices) in bone window demonstrate multiple rounded calcifications (calculi) in the posterior aspect of the prostate gland.

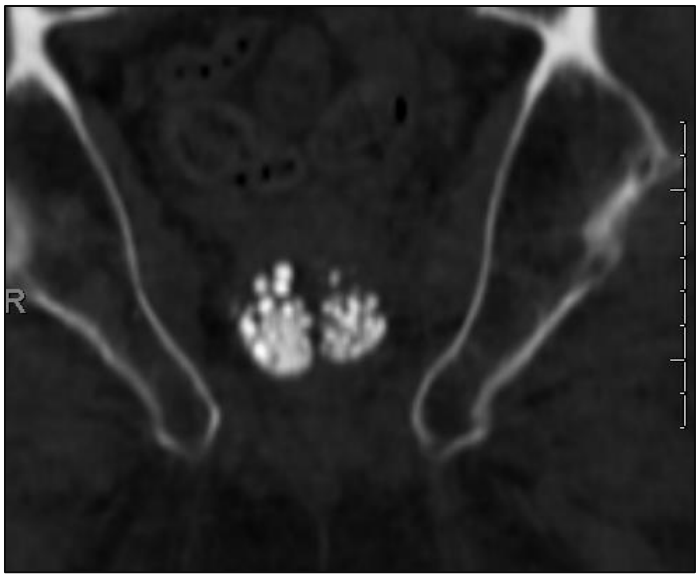

Figure 4: Coronal CT scan of the left hip joint of 74-year-old male (2 mm slices) in bone window demonstrate multiple rounded calcifications (calculi) in the prostate gland.

Discussion

Prostatic calculi are frequently encountered, often incidentally on imaging performed for unrelated indications. Calculi are typically asymptomatic but can be associated with benign prostatic hyperplasia, prostatic cancer, and prostatitis [1-3]. Calculi are sometimes divided into groups based on size, which may also relate to different underlying mechanisms of formation. Smaller punctate calculi probably form via calcification of corpora amylacea (small proteinaceous accretions found in prostatic acini), while larger, courser calculi form via simple precipitation in prostatic ducts [3].

While crepitus in the prostate may initially seem a concerning finding, urologic literature (predominantly from the early twentieth century) suggests that this finding is typical of large prostatic calculi [4,5]. Several studies have correlated prostatic calculi with bacterial infections, however; in the absence of an alternative source of infection, significant stone burden in the prostate on abdominal radiographs or CT scans (as in this case) should be described, as antibiotic therapy may be warranted [2,6]. In rare cases of large calculi causing obstructive symptoms, transurethral resection can be performed [3].

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