Extensive Prostatic Calcification: A Visual Vignette

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Abstract
We present a case of prostatic calcification due to alkaptonuria with other clinical features.

Case History

A 51 year old male presented with a 2 year history of increased urinary urgency and precipitancy without associated dysuria, polyuria or hematuria. He had a history of having been treated conservatively for renal calculi at the age of 35 years. Plain X-ray of the pelvis (Figure 1) showed two large radio-opaque calcified shadows in the retropubic region with a vertical linear area separating the two.

What is the radiological abnormality seen (Figure 1)?
Prostatic calcification.

How will you confirm this?
Ultrasoundography. In this patient ultrasonography of the pelvis showed an enlarged prostate with calcification of the lateral lobes.

What are the conditions associated with extensive prostatic calcification?
Tuberculosis
Other granulomatous diseases
Malignancy
Alkaptonuria

Which of the above conditions is likely in this patient with the clinical picture shown in (Figure 2)?
Pigmentation of the ear cartilage and sclera, suggestive of Alkaptonuria.

What additional information is needed?
History of backpain, dark-staining of underclothes or black discoloration of urine.

What additional radiological investigation is required?
Spine lateral view.

What is the abnormality seen in the spine X-ray (Figure 3)?
Intervertebral disc calcification with bamboo spine appearance.

What additional test is required?
Urine for Homogentisic acid.

Our patient was the shortest among his family members (Height 146 cm). He was found to have a stiff gait, diffuse kyphosis of the spine and painful restriction of spinal flexion and gave a history of a progressively worsening low back-pain and stiffness for the past 20 years. His sclerae and ears showed hyperpigmentation. On questioning, he recollected that his underclothes tend to have dark stains. Urine for Homogentisic acid was positive confirming the diagnosis of alkaptonuria.

Ochronosis usually results in blackish pigmentation of joints, ocular sclera, skin over ear cartilages, urine and cardiovascular system. Deficiency of the enzyme homogentisate 1,2-dioxygenase leads to accumulation of homogentisic acid in cartilages, tendons and sclera. Arthritis does not affect the small joints and unlike in ankylosing spondylitis the sacro-iliac joints are not affected. Connective tissues such as the intervertebral discs in which homogentisic acid gets precipitated tend to show dystrophic calcification. Genito urinary manifestations apart from darkening of urine include prostatic and urethral stones. Benign prostatic hyperplasia with a large ochronotic calcification of the prostate as seen in our patient is rare.

Treatment
Regular physiotherapy and spinal flexion extension exercises and static neck exercises help these patients to lead lives without much disability. Vitamin C in large doses has been tried but is ineffective.
not of proven value. Drugs that inhibit tyrosine hydroxylase such as nitisinone\(^1\) are undergoing clinical trials but the tendency for tyrosinemia while on these drugs and consequent adverse effects pose a problem.

References


Fig. 3: X-ray – spine showing intervertebral disc calcification