Uric acid bladder stone associated with a foreign body

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Summary: A uric acid bladder stone is described. This stone was unusual in that it had formed on a foreign body, namely surgical suture material. This phenomenon does not appear to have been described previously.

Introduction

The formation of bladder-stones around foreign bodies is well-known to urologists. This case report describes the occurrence of a pure uric acid stone, which had formed around a length of surgical suture material within the bladder.

Case report

A 79 year old male had been an insulin dependent diabetic for 3 years. Eleven years before his death, he had had a transvesical prostatectomy and had not complained of any subsequent urological symptoms. Medication, in the 3 years before death, had included a thiazide diuretic for his mild hypertension and salicylates for his transient cerebral ischaemia. Serum uric acid concentration had never been measured.

Post-mortem examination established the cause of death as myocardial infarction. An incidental finding was a firm, orange-yellow semi-circular calculus lying free at the base of a trabeculated and dilated bladder. The stone was 90 mm long × 10 mm average diameter and contained a nucleus of silk suture material 120 mm long (Figure 1). A total of 30 mm of suture material protruded from the ends of the stone. Biochemical analysis of the stone using a wet chemical qualitative technique (Merckognost urinary calculi analysis kit) showed a uric acid composition. Tests for calcium, magnesium, ammonium, cystine, phosphate, carbonate and oxalate were negative.

Comment

It is perhaps surprising that this man had no urological complaints, given the large size of his bladder calculus.

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Figure 1 Bladder calculus. Note the suture material at each end of the calculus.

The suture material which provided the nidus for the calculus had presumably found its way into the bladder during prostatectomy. Stones forming around foreign bodies in the bladder usually contain calcium (Smith, 1984). In a case report describing stone formation around suture material, analysis of the stone showed calcium, ammonium, phosphate, oxalate and uric acid (Marks, 1974).

This case is unusual in having only uric acid deposited on a foreign body and such a phenomenon does not, from an extensive literature search, appear to have been reported previously.

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Reference

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