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Case Report

Migratory Foreign Body in The Urinary Bladder-An Unusual Cause of Vesical Calculus

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Summary

Migratory foreign bodies in the urinary bladder are rare. However, there is a possibility of longstanding foreign bodies in adjacent structures to erode and perforate into the bladder. Inside the bladder these foreign bodies act as nidus for stone formation. A Forgotten Copper T Intrauterine device placed about 16 years back has migrated into the bladder resulting in formation of large vesical calculus and patient presented with lower urinary tract symptoms. Imaging studies (Ultrasound, X-ray, and CT scan) showed the Copper T embedded in the stone, which was removed by open cystolithotomy. Clear instruction to the patients and periodic follow up in whom foreign devices are used for therapeutic purposes will avoid major complication.

Background

Foreign bodies such as Double J Stent, Copper T, Prolene mesh, orthopedic screws are used for various therapeutic purposes adjacent to the bladder. These devices when left for prolonged duration have a tendency to erode and perforate into the bladder. Normally the urine has to be supersaturated for stone formation to occur, but in the presence of foreign body stone formation occurs in normal urine. Hence it is prudent to have a regular follow up of these patients. We present one such case of forgotten foreign body.

Case Presentation

41-year-old lady presented with storage lower urinary tract symptoms (frequency, nocturia and dysuria) for 6 months. Significant past history being, in spite of Copper T insertion 16 years back, patient had a successful term pregnancy 2 year after Copper T insertion. There is no history of Copper T removal till now.

Investigations

On initial evaluation with ultrasound, (Figure 1) revealed a vesical calculus of size 4.6 X 4.4 cm. On further evaluation with X-ray KUB, (Figure 2) and CT Scan, (Figure 3,4).

Figure 1

Figure 2

Figure 3

Figure 4

showed large laminated vesical calculus and Copper T seen outside the uterus with horizontal portion in the vesicouterine pouch, long vertical portion seen protruding into the urinary bladder lumen through the posterior wall partly encased in the vesical calculus.

Management

In view of large stone with Copper T and one limb of Copper T outside the bladder, Cystoscopy and open cystolithotomy, (Figure 5) was performed. Intraop findings were consistent with CT scan. Postoperative course was uneventful, and patient was relieved of symptoms.

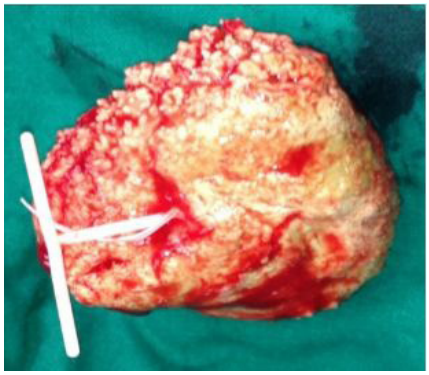

Figure 5

Discussion

The usage of foreign devices for therapeutic purposes is associated with various adverse events. One such adverse event due to long standing foreign body around the bladder is migration into bladder and vesical calculus formation. The Mechanism by which these foreign body migrations occur is by erosion and perforation. Various migratory foreign bodies found in bladder include Intrauterine Contraceptive devices [1-5], Fish bone [6], Vascular Graft [7], Vaginal pessary [8], Mesh [9,10], Weck clip [11] and Artificial Urinary Sphincter. These foreign bodies once inside the bladder predispose to stone formation by acting as nidus around which stone formation in normal unsaturated urine. The resultant stone or the foreign body itself cause lower urinary tract symptoms and predispose to recurrent urinary tract infection causing great morbidity. The diagnosis of the migration is usually by either an ultrasonography or Plain X-ray KUB region. CT scan helps to clearly delineate the exact location of the foreign body as in the present case. Cystoscopy is useful in case of radiolucent foreign body such as Mesh. Treatment options include minimally invasive methods like cystoscopic removal, cystolitholapaxy or percutaneous cystolithotomy and open or laparoscopic cystolithotomy [12,13]. Open procedure is preferred when the foreign body is only partially inside the bladder lumen or embedded in the bladder wall.

Learning Points

- Long Standing Foreign bodies around bladder can migrate into bladder by erosion and perforation.

- Foreign bodies inside bladder act as nidus around which stone formation occurs even in unsaturated urine.
- Clear instruction and periodic follow up of patients in whom foreign devices are used for therapeutic purposes will avoid major complication.

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