

Bladder stone formation over a partially migrated intrauterine contraceptive device in a patient presenting with cyclical haematuria

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The case of a 42-year-old woman with a forgotten intrauterine contraceptive device (IUCD) presenting with irritative bladder symptoms and cyclical haematuria is reported. The threads of the IUCD were seen in the vagina during speculum examination. Partial migration of the IUCD into the bladder and formation of a large stone around it were confirmed by X-ray of the kidney, ureter and bladder and cystoscopy. Suprapubic cystolithotomy was performed, and the stone was removed together with the IUCD.

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Case report

A 42-year-old woman presented to our institution with a history of fever with rigors for the past week. She had a history of intermittent burning micturition for the past 3 years and cyclical haematuria for the past 6 months. Menstrual cycles were regular. She had undergone puerperal sterilisation 20 years ago. Vaginal speculum examination revealed threads of an intrauterine contraceptive device (IUCD). The threads snapped during attempts to remove the device. The patient denied any history of IUCD insertion. Examination of the urine revealed significant growth of *Escherichia coli*. Ultrasound of the kidney, ureters and bladder (KUB) showed a large calculus in the bladder measuring 4.47 × 3.22 cm. KUB X-ray showed a large calculus with the IUCD. Cystoscopy showed calculus formed over the vertical limb of the IUCD and the horizontal limb embedded in the uterus. Suprapubic cystolithotomy was done and the stone was removed, together with the IUCD and the thread intact (Fig. 1). The incision to the uterus was very small and did not require formal closure. Primary closure of the bladder was done. Continuous drainage of the bladder was maintained for 14 days, and the patient made an uneventful recovery. On follow-up, there was no recurrence of cyclical haematuria.

Discussion

The IUCD has been used as an effective and reliable method of reversible contraception in the developing world. The device is associated with a number of rare adverse complications such as spontaneous or septic abortion, urinary tract infection, uterine perforation and migration to adjacent structures.^[1] Migration of the IUCD to the bladder together with stone formation is an uncommon complication.^[2] These patients usually present with a chief complaint of not being able to find the device string. Regular self-examination for 'missing threads' is standard advice. This case is unique as the threads were seen in the vagina although the device had partially migrated to the bladder. This patient had either not been properly informed about insertion of the IUCD or had forgotten about it.



Fig. 1. Stone with intrauterine contraceptive device and threads.

Only 31 cases of complete or incomplete migration of an IUCD into the bladder and calculus formation have been reported in the literature.^[2] All IUCDs are radio-opaque, so when migration is suspected a plain radiograph of the abdomen is the initial investigation.^[3] Transvaginal ultrasonography provides the best view for locating the device. Non-contrast computed tomography enables excellent visualisation of the sites of migrated IUCDs.^[4] Ko *et al.*^[5] used 3D ultrasound to determine the site of migrated IUCDs accurately. Cystoscopy confirms the diagnosis and can be done as part of the surgical procedure. Cystoscopy is also cost-effective. Most cases are treated by cystoscopy and lithotripsy. Suprapubic cystolithotomy may be necessary for big stones. Vesical stones are uncommon in females. When a vesical stone and an IUCD are seen in any female patient, IUCD migration and stone formation should be suspected.

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