

## VESICAL CALCULUS: A UROLOGICAL COMPLICATION OF INTRAUTERINE CONTRACEPTIVE DEVICE

E.S. GARBA AND A.O. OGUNTAYO

*Departments of Surgery and Obstetrics & Gynecology, Ahmadu Bello University Teaching Hospital, Kaduna, Nigeria*

### INTRODUCTION

Bladder stones occasionally build up around foreign bodies in the bladder. One such foreign body in the bladder may be a dislocated intrauterine contraceptive device (IUD). Stones can form around the device that might have moved from its original location many months or years earlier and has migrated into the urinary bladder.<sup>1</sup> Health care workers frequently encounter this problem in patients whose IUD threads are missing. The common IUD devices used are Lippe's Loop, Copper 7, Copper T and the Multiload. They are not 100% safe but are effective and easy to insert. They should be regularly checked for correct location by feeling for a thread at the end of the device.

In this article we report on two confirmed cases in which the device had migrated into the urinary bladder and caused calculi formation.

### CASE REPORTS

#### Case No. 1

E.E., a 36-year-old mother of six children, presented to our hospital with a six-year history of recurrent lower abdominal pain associated with painful urination and urinary frequency, but without associated fever, vaginal discharge, irregular vaginal bleeding or hematuria. The patient had initially been seen at a secondary level hospital for the same complaints and had been treated for chronic urinary tract infection (UTI) without any improvement of her symptoms. Six years before she presented to our department, she had had an intrauterine Copper T device inserted, but one year later she returned to the provider for its removal on account of recurrent lower abdominal pain and to enable her to continue child bearing. Her request was



Fig. 1: IVU showing a foreign body in the form of the Copper T device in the bladder

granted, and she subsequently had natural vaginal delivery of normal babies on two occasions.

Examination revealed an obese and afebrile woman. There was tenderness in the lower abdomen with no palpable abdominal mass. Vaginal examination was grossly normal except for mild tenderness in the anterior vaginal wall. Full blood count, urea and electrolytes were normal. Urine microscopy, culture and sensitivity revealed no casts but cultured *Klebsiella* species sensitive to gentamicin and ofloxacin. Intravenous urography showed a normal upper tract and a filling defect in the bladder with a foreign body shaped in the form of Copper T (Fig. 1). Pelvic ultrasonography showed a solitary stone in the urinary bladder. The patient had antibiotics for a week before she had urinary bladder exploration. At surgery, a solitary stone in the shape of copper T measuring 8 x 6 x 4 cm was extracted from the dome of the urinary bladder. No obvious fistula connecting the uterus to the bladder and no bladder diverticulum were noted. The internal urethral opening was

normal. The abdomen was closed *en masse*. The postoperative period was uneventful and the patient is symptom-free.

### Case No. 2

A.R., a 30-year-old nulliparous woman, presented to us with a two-year history of lower abdominal pain associated with burning sensation and urinary frequency. She had a history of two previous unlawful abortions with development of Asherman's syndrome treated by insertion of a Copper T into the uterus as a form of therapy for this complication. Six months after insertion of the Copper T, she started having colicky lower abdominal pain without associated fever, vaginal discharge or hematuria. She then went to a hospital for removal of the contraceptive device. She received antibiotic treatment and it was confirmed to her that the IUD had been removed. However, no improvement of her symptoms and no conception were noted.

At presentation she was found to be afebrile. Examination revealed lower abdominal tenderness with no palpable abdominal mass. Vaginal examination revealed no discharge, but mild tenderness in the anterior vaginal wall. Full blood count, urea and electrolytes were normal. Urine microscopy, culture and sensitivity revealed no casts or isolation of an organism. Intravenous urography showed a normal upper tract and a filling defect in the bladder with a foreign body in the shape of a copper T device. Pelvic ultrasonography showed a solitary stone in the urinary bladder. On bladder exploration a solitary stone around the long arm of the Copper T device measuring 6 x 8 cm was extracted from the posterior wall of the bladder (Fig.2). There was no obvious fistula connecting the uterus to the bladder nor was there any fibrous tissue connection between the urinary bladder and the uterus. No bladder diverticulum was noted. The internal urethral opening was normal. The abdomen was closed *en masse*. The postoperative period was uneventful, and the patient has remained symptom-free since discharge.

### DISCUSSION

Intrauterine contraceptive devices (IUD) are usually used in family planning clinics. The types available are Lippe's Loop, Copper 7, Copper T and the Multiload. The use of these

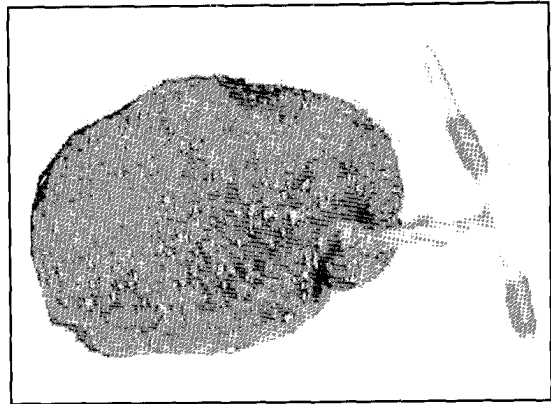


Fig. 2: Hard stone around the long arm of the Copper T extracted from the urinary bladder (6 x 8 cm in diameter)

devices is associated with complications such as missing threads, expulsion of the device and pregnancy<sup>1-2</sup>

General practitioners, family planning doctors and gynecologists frequently encounter the problem of missing threads. When the device migrates outside the uterus, any of the surrounding organs can be penetrated.<sup>3</sup> In the urinary bladder this might lead to stone formation. The stones are usually formed around the IUD that might have gone missing many months or years earlier.<sup>4-5</sup>

Intravesical migration of IUD can result in recurrent urinary tract infection (UTI). This is why in our environment many of these patients who are first seen by general practitioners in secondary level hospitals are treated for UTI. When such patients are fully assessed, bladder stones are one of the common findings. Ultrasound examination should be part of the evaluation in patients with a history of an unretrieved IUD especially in those with chronic urinary tract infection. In any instance of a "missing" IUD, an abdominal X-ray, ultrasound, or hystero-graphy is indicated to exclude perforation and/or migration.

Migrated IUDs should be removed as soon as possible. If the displaced IUD is located in the urinary bladder, this can be done easily with cystoscopy. Open surgery is an alternative method.

In conclusion, our cases demonstrate the importance of skilled clinical assessment and appropriate investigations for the correct location of an IUD lying within and outside the uter-

ine cavity where the threads are 'lost'.<sup>6</sup> Accurate ultrasound examination can avoid unnecessary X-rays or surgery. We should be reminded that a missing thread of an IUD does not imply that the device is misplaced. It is important to realize that IUDs hardly perforate the uterus on their own: they do so at insertion.<sup>7</sup>

We recommend that the IUD "tail" should be checked regularly as indicated by the manufacturers, and that women with an IUD and missing threads presenting with UTI should be screened for bladder stones.

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Corresponding author:

Dr. E.S. Garba  
P.O. Box 3772  
Kaduna 800001  
Nigeria

[esgarba@hotmail.com](mailto:esgarba@hotmail.com)