SECONDARY VESICAL CALCULUS AROUND TRANSLOCATED IUCD IN URINARY BLADDER

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INTRODUCTION

Bladder stones may be primary or secondary in origin. Primary bladder stones develop in the sterile urine. They are formed in the kidney and pass into the bladder. Since the urethra is much wider than the ureter they are quickly passed out[1]. They are mostly composed of calcium oxalate crystals and after descending to urinary bladder acquire secondary deposits of calcium phosphate, magnesium ammonium phosphate or ammonium acid urates. At times they lie in a diverticulum of urinary bladder. Diseases like gout and hyperparathyroidism can lead to stone formation. Secondary bladder stones result from bladder outlet obstruction, infection, bilharziasis, tumours, or presence of foreign bodies in urinary bladder such as non-absorbable sutures, metal staples, catheter fragments or in rare occasions around translocated IUCDs (or improperly placed IUCDs!). They can also form around vaginal slings, which have eroded into the bladder[2]. Secondary bladder stones are usually triple phosphate calculi composed of ammonium, magnesium and calcium phosphates and occur in urine infected with urea splitting organisms such as Proteus mirabilis.

Formation of bladder stone around translocated IUCDs is uncommon but occasional cases are seen specially in third world countries where expertise and follow up are not adequate and 'misplaced' or 'forgotten' IUCDs appear in urinary bladder with encrustation around it causing symptoms of chronic UTI[3].

CASE REPORT

A 48 years old lady presented to the surgical outpatient department with 6 months history of recurrent pain in hypogastric region, dysuria, frequency and occasional mild hematuria. There was no history of fever, diarrhea, or vaginal discharge. She had three children, all alive and born normally. Nine years ago, after the birth of third child, she visited a lady health worker for contraception and was inserted a Copper T. It was later on 'misplaced' and 'forgotten', assuming spontaneous expulsion. Later on she underwent tubal ligation. She was taking repeated courses of antibiotics for chronic UTI for the last six months. On examination she was found afebrile with normal vital signs. There was mild tenderness over hypogastric region. Urine routine examination revealed numerous pus cells. Culture and sensitivity of urine resulted in growth of E.coli, which was sensitive to ciprofloxacin. Further investigations were carried out to find out the cause of chronic UTI. Abdominal ultrasound and X-Ray KUB revealed a radio-opaque shadow consistent with a stone around a Copper T in bladder area (Fig 1). Intra venous urography was normal. Suprapupic cystostomy was performed which revealed a partially embedded IUCD in bladder wall (Fig 2). There was stone formation around part of its vertical limb (Fig 3). The bladder mucosa and internal urethral opening were normal. Removal of the IUCD along with stone cured the patient and she is now asymptomatic.

DISCUSSION

IUCD is the second most commonly used contraceptive in the world and about 13% of all women of reproductive age use this method[4]. The earlier versions of IUCDs called Cu 7 and TCu 200 are now replaced by second generation of long lasting more effective devices like Multiload, Nova T and copper T 380 A. In developing countries this device is often inserted by paramedics of variable skills, and follow up evaluations are irregular or absent. The perforation may be immediate which occurs at the time of insertion of IUCD and its

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incidence is 1:1000[5]. Delayed perforations and translocations usually start with partial perforation at the time of insertion. The uterine contractions result in total translocations of IUCDs. The delayed perforations are usually transcervical and they are generally asymptomatic until secondary complications like "pregnancy", intestinal fistula, UTI and secondary stone formation develop. In rare occasions it can erode into ureter and cause encrustation around it[6]. There may be interesting presentations of migrated IUCDs. Its vertical limb can erode the rectal wall and present its threads through the anus[7,8]. Moreover two IUCDs have been removed from the same patient; one inside urinary bladder with stone around it and the other embedded in posterior bladder wall[9].

Any patient in child bearing age presenting with chronic urinary tract infection and supra pubic pain should be thoroughly investigated for possible translocation of IUCD. Abdominal X-Ray, IVU, ultrasound, urinalysis, culture and sensitivity test of urine and, at the times, CT scan of abdomen is required to clinch the correct diagnosis. When strings of IUCD are not visible through gynecological examination should be carried out. Pregnancy should be ruled out before further investigations. A cytobrush can be used to draw the threads out of endocervical canal. In difficult cases a uterine sound or endocervical speculum can be used to remove the device from endocervical canal. It is usually possible to confirm the presence or absence of IUCD by plain X-Ray alone. When it lies in urinary bladder secondary stone formation can occur and can be managed endoscopially or by suprapubic cystostomy. Laparoscopy can be both diagnostic and therapeutic when the device is lying in abdominal cavity. Adequate antibiotic cover is mandatory to control the sepsis.

This lady had been inserted with Copper T by the paramedics and was poorly managed with inadequate follow up. No attempt was made to locate the missing device. It was just assumed that the device had been expelled spontaneously. Later on this device was detected in urinary bladder during investigations for chronic UTI. Though she was successfully managed by open surgery, but where facilities are available these stones can be managed endoscopically with ballistic lithotripsy[10]. Sometimes a part of IUCD is stuck up in the pelvic cavity while other part with the stone is present in urinary bladder. In such difficult cases complete removal is achieved by both laparoscopy and cystoscopy.

CONCLUSION

IUCD is a common method of contraception in our country. It is safe, effective and very cheap. But at the same time it requires expertise, proper follow up, and early detection and management of complications. There should be an improvement in training of paramedical staff in our lady health care system. Any displaced IUCD should be properly investigated especially when the patient presents with backache, chronic UTI or lower abdominal pain.

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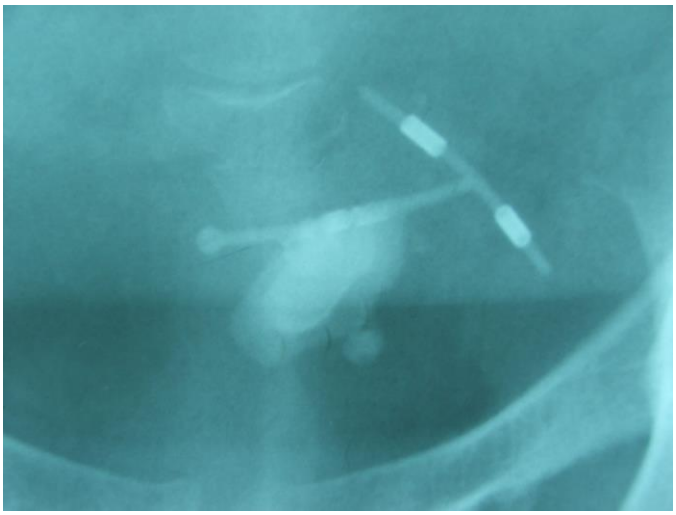

Fig. 1: X-Ray KUB showing a radio-opaque stone in bladder area around a Copper T.

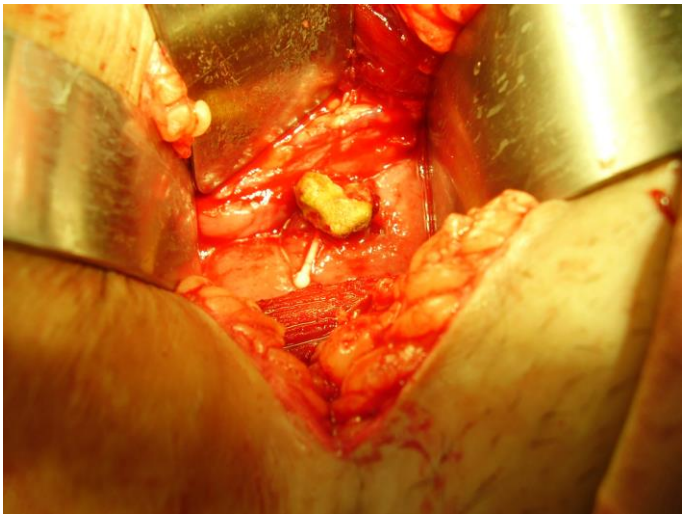

Fig. 2. Copper T device partially embedded in posterior bladder wall.

Fig. 3: Copper T retrieved from urinary bladder showing encrustation around vertical limb.