Case Report

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Surgery Section

Asymptomatic Intravesical Migration of an Intrauterine Device Detected during Delivery

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ABSTRACT

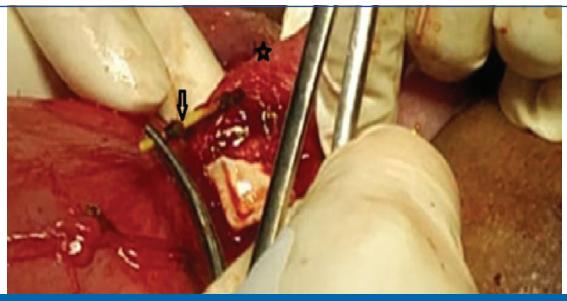
Intrauterine Contraceptive Devices (IUCD) are known to be associated with many complications; however, uterine perforation with migration into adjacent soft tissue is rarely observed. The authors report a rare case of a 31-year-old full-term pregnant female who presented in labour and was posted for a Lower Segment Caesarean Section (LSCS) in view of a history of LSCS. Dense adhesions were noticed between the posterior wall of urinary bladder and uterus. A foreign body was also palpable in the bladder. The limb of an IUCD (Copper T) was seen through a rent in the bladder wall, via which it was removed in its entirety. As asymptomatic cases missed by routine scans can occur, Magnetic Resonance Imaging (MRI) may have a role to play in dubious cases of pregnancy having a history of IUD insertion which wasn't removed.

Keywords: Contraception, Foreign body, Uterine perforation

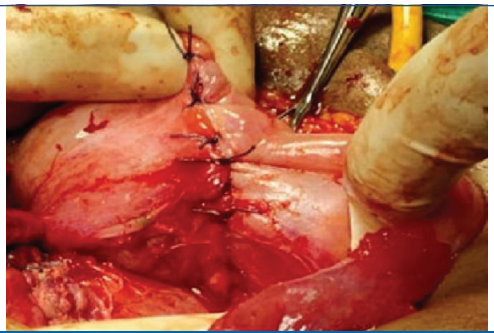
CASE REPORT

A 31-year-old full term (38 weeks) pregnant female G3P3L2 (Gravida 3 Para 3 Live 2) presented in labour. All blood parameters and results of urinalysis were within normal limits. Ultrasonography (USG) scans were done multiple times during pregnancy even as recently as four days before delivery but none of them revealed any abnormality. The patient remained asymptomatic throughout pregnancy. She was taken for an LSCS in view of history of the same. The baby was delivered safely and placenta was removed.

Dense adhesions were noticed between the posterior wall of bladder and uterus. Additionally, a foreign body could be palpated inside the bladder. Adhesiolysis was performed and a rent was noticed in the uterine wall and the posterior wall of bladder through which a limb of Copper T was seen [Table/Fig-1]. The Intrauterine Device (IUD) was removed in its entirety, margins of the bladder were refashioned, the rent was closed and a Suprapubic Catheter (SPC) and Per-urethral Catheter (PUC) were inserted [Table/Fig-2]. Upon enquiry, she revealed to have the IUD inserted four years ago but presumed that it had subsequently fallen out.



[Table/Fig-1]: Intraoperative photograph depicting the IUD (arrow) perforating the bladder wall (star).



[Table/Fig-2]: Intraoperative figure of uterine closure after removal of IUD and repair of bladder wall.

DISCUSSION

Intrauterine Devices were first introduced as a method of contraception by Richter in 1909 [1]. Over time, numerous modifications to the design were made to enhance their safety and efficacy as tool of long-acting reversible contraception [2]. Today, IUDs are a highly popular method of contraception, especially in developing countries, with nearly 14% of women in the reproductive age group worldwide opting for the same [3]. IUDs have also been plagued by numerous complications, including septic abortion, pelvic abscess, ectopic pregnancy and migration into adjacent organs [4]. However, a perforation of the uterus coupled with migration of IUD into the adjacent soft tissues is an infrequent complications of the use of these devices [5], first reported in the 1930s [6,7].

The incidence of perforation of the uterus by IUD ranges from 0.4 to 1.6 per 1,000 insertions [8], but may be higher due to under-reporting and its asymptomatic nature, with few cases not being detected until several years after the insertion of the IUD [9-11]. The migrated IUD may further give rise to complications like pelvic abscess, bowel obstruction and perforation, or very rarely bladder perforation [12]. The uterine perforation could occur immediately after insertion (traumatic perforation) or later, as a result of gradual erosion through the myometrial wall [13]. A retained IUD at the site of impaction may cause substantial muscular oedema, infection, and inflammation, which, although may remain asymptomatic, when subjected to a stress like onset of labour, (giving rise to uterine contractions) may cause focal dehiscence leading to uterine perforation and IUD migration [14].

Intravesical migration of an IUD would normally would give rise to atleast one or the other symptoms like irritative voiding symptoms, dysuria, haematuria, fever, etc., and is unlikely to be asymptomatic [15,16]. In the present case, the patient had an asymptomatic IUD which was retained and forgotten and an uneventful antenatal period. Even the antenatal USG scans failed to detect the IUD, suggesting that it may have been embedded in the uterine wall and thus was obscured in scans. In the present case, onset of labour causing strong uterine contractions must have been a precipitating event causing wall rupture and IUD perforation which was noticed during caesarean section. El-Hefnawy AS et al., published a series

of eight cases in 2007 of intravesical migrated IUDs. The time of onset of symptoms after insertion was 6-24 months; six cases presented with vesical calculi which were managed endoscopically, while two cases had hydroureteronephrosis with lower ureteric injury requiring ureteroneocystostomy [17]. A review of literature of eight reported cases by Thomalla in 1986 revealed that in cases in which the time period post IUD insertion ranged from 1 to 10 years, almost all the patients presented with irritative voiding symptoms and formation of vesical calculi [18]. Dietrick DD et al., also reported a case of intravesical IUD migration where in the patient presented with irritative voiding symptoms which were managed endoscopically [19]. However, the present case is the first report of an undiagnosed asymptomatic retained IUD, migrating and causing vesical perforation detected intraoperatively during caesarean section. Thus, any females with a history of IUD insertion, who are doubtful of its removal, should be thoroughly investigated with urinalysis and Ultrasonography (USG) scans before conception. Magnetic Renosance Imaging (MRI) may be needed in cases having high suspicion of retained IUDs with normal USG reports, as findings can be missed on USG scans (as in the present case) and due to risk of radiation exposure, Computed Tomography (CT) scan cannot be performed.

In non pregnant females, non contrast CT can be the investigation of choice after preliminary USG diagnosis of migrated IUD. It can accurately localise the migrated IUD as well as clearly depict the extent of perforation [17]. Intra-vesical IUD migration is almost always symptomatic- acting as a constant source of infection and may even give rise to the formation of a calculus. Thus, these should always be treated. Cystoscopy is a useful diagnostic tool which also aids in IUD removal along with calculi management, if present [20]. Densely adherent IUD in bladder wall can be removed by suprapubic cystostomy [21]. Persistent lower urinary tract symptoms in women with IUD should raise the suspicion of intravesical migration [21]. Non contrast CT permits excellent depiction of the migrated IUD site for selection of proper management. Endoscopic retrieval is a feasible and safe procedure in cases with intravesical migrated IUD [22].

CONCLUSION(S)

According to present case report finding, MRI can be useful tool in pregant patients having history of forgotten IUDs with USG showing inconclusive findings. Urologists should always be made available in such cases.

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