Missing IUS arms?

We want to describe a couple of cases that serve to demonstrate that the hormone capsule of the Mirena® intrauterine system (IUS) can dislocate during removal thus changing its appearance. As a result, careful examination of the device is required to prevent further unnecessary investigations.

A 58-year-old woman presented to her general practitioner for removal of a Mirena IUS as it was no longer required. It had been inserted at the practice 7 years previously to provide the progesterone component of her hormone replacement therapy.

At the time of removal the cervix and the IUS were difficult to locate. More traction than usual was required on the threads to remove the device. On inspection it appeared that the horizontal arms had become detached as they were not evident and the vertical main stem of the IUS had been removed with the hormone release capsule attached.

The patient was asymptomatic and was allowed home. A transvaginal ultrasound scan was performed on an outpatient basis. The scan demonstrated echogenic specks at either end of the endometrium in longitudinal section, and in coronal section noted within the lateral walls of the uterus. It was queried whether these represented the arms of the IUS. The patient was then referred to the gynaecology department, for consideration of operative hysteroscopy to remove the retained arms.

A 50-year-old woman presented to the colposcopy clinic with moderate dyskaryotic smears. She had undergone two previous loop excision procedures (LLETZ) for cervical intraepithelial neoplasia (CIN) with complete excision at each. On this occasion colposcopy examination was limited because of unsatisfactory views of the squamo-columnar junction. It was decided the patient would have a further LLETZ treatment with removal and reinsertion of the Mirena IUS under general anaesthesia.

At the time of the procedure it was noted that the IUS threads were visible and the internal cervix was more than usual but required on the threads to remove the device. On inspection it was thought that the arms had become detached, the long stem of the device with the hormone release capsule present was attached to the threads. A saline hysteroscopy was therefore performed to locate the IUS arms. Good views of the entire cavity failed to demonstrate either presence of IUS arms or perforation. The LLETZ procedure was performed and a new IUS inserted. The patient underwent an uneventful post-operative recovery.

In both cases, when the removed IUS was re-examined, it became apparent that the entire device had been removed from the uterine cavity. The arms were still attached to the main stem of the IUS. The hormone release capsule, usually situated at the base of the vertical stem, had migrated up the shaft, trapping the arms and bringing them together in the midline, making it appear as if they had been detached (Figure 1).

The majority of IUS are removed without difficulty. There are no published cases of IUS arms becoming detached. However, an intrauterine-retained hormone release capsule following IUS removal has been documented.3 The common theme in the two patients described above and Forrest et al.’s patient1 is difficult retrieval of the device requiring more traction on the threads than normal. This presumably led to the hormone capsule being dislodged, either migrating up the device and getting stuck covering the arms or becoming detached altogether. Clinicians should always check IUS devices after removal. They should also be aware that after a difficult removal the capsule can migrate and obscure the arms but the device remains complete. Knowledge of this possibility will prevent patients being subjected to unnecessary investigations and interventions to find ‘missing’ IUS arms and for appropriate investigations and interventions when the capsule has detached.

The whole of the IUS device is radio-opaque and can be located with either X-ray or ultrasound.2 Transvaginal ultrasound is the first-line investigation to view the IUS and provides the best images to help determine whether or not the IUS is correctly sited within the uterus. The vertical stem of the IUS is visualised in the sagittal plane with multiple reflective parallel planes and in the axial plane as a single echogenic focus.3 However, in the cases reported here the vertical stem was missing. Horizontal arms are rarely seen in the uterus unless it is possible to obtain a coronal view.3 In view of this difficulty abdominal X-ray would confirm whether or not the horizontal arms of the IUS were within the pelvis. This would be useful, especially prior to embarking on hysteroscopic investigation.

Serious morbidity with long-term IUD retention

We have recently encountered four patients with serious intraperitoneal sepsis over an 18-month interval (2007/2008). Each was associated with long-term retention of a copper intrauterine device (IUD), which was identified as the likely source of infection. The IUDs had been in situ for 8, 15, 18 and 20 years, respectively. Three women were several years into their menopause. All four women presented as systemically unwell with a complex pelvic mass. One had uterine obstruction at the site of the abscess, simulating gynaecological malignancy. In all cases laparotomy was technically difficult owing to the inflammatory pelvic mass adhering to bowel. Intermediate or prolonged hospitalisation resulted and, without intensive care, two of the women would probably have died.

Pelvic actinomycosis was reported in the two patients’ histories. Cultures of frank pus grew Actinomyces naeslundii in both. Actinomyces-like organisms (ALOs) had been reported on the smear of the fourth woman. In 2004 she had undergone appendicectomy, which showed...
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severe subserosal inflammation without mucosal inflammation leading to the conclusion that the source was elsewhere within the abdomen or pelvis. It is speculative that this episode 4 years after the age of 40 years they may remain site causing no harm. The patient had already had very large months or years before presentation.1

In summary, on the face of it this would appear to be a simple case of a woman having an IUS inserted and developing a TAC, which was rapidly cured by removing the device. I would be delighted to discover if any of the Journal’s readers have observed a similar case.

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IUS producing a TAC

I recently saw a very unusual patient in whom an intrauterine system (IUS) appeared to produce a trigeminal achenalgeia (TAC).

The patient, a 39-year-old woman, was fortunate never to have had a headache until the events reported here. In early 2007, the patient started to complain of severe menorrhagia. Her periods were heavy and lasted for 14 days, and necessitated the use of 15–20 sanitary pads a day. Tranexamic acid 1000 mg qds was tried initially for 8 weeks but the heavy bleeding continued. New hormonal contraceptive therapy with 5 tds was tried for many months resulting in a mild improvement. In desperation, the patient was referred to a gynaecologist who felt that the next step was to insert a levonorgestrel-releasing IUS. This was duly done. Within 6 hours of inserting the IUS the attacks started. All the patient’s attacks (averaging 5–7 attacks/day) were similar. All were left-sided and associated with a headache. An attack started with pain to the side of the left eye that the patient described as unbearable, like the worst toothache ever. Associated with the pain was pain to the left frontotemporal region. The patient was told she was completely different person. She had suffered one further attack some 6 hours after the IUS was removed and was given a zolmitriptan nasal spray. After this her attacks had totally stopped. At that clinic visit, in order to help her menorrhagia, which still raged. I started the patient on norethisterone again. Eighteen months later she is still completely free of attacks, and although her bleeding is still very heavy, she is not prepared to even consider allowing me to reinstate an intrauterine device/system, with or without hormones. She says the pain was the worst pain she could ever imagine and as a result she would never, even for the purposes of research, have an IUS inserted again.

This woman appeared to develop a TAC, which approximated most closely to a cluster headache. The patient had had previous attacks, but perhaps not so severe. It might be argued that it was not the IUS itself, but the hormone present in the IUS, which triggered the attacks, however this seems unlikely. The patient described premenstrual and daily doses of progestogen prior to IUS insertion with no ill effects and has also had large doses following IUS removal. The progestogen dose in the IUS is effective because it has reached a high level after only 6 hours. Conversely, if the problem were the hormone in the IUS, its removal would be unlikely to cause the hormone level to decrease significantly in 6 hours.

In summary, on the face of it this would appear to be a simple case of a woman having an IUS inserted and developing a TAC, which was rapidly cured by removing the device. I would be delighted to discover if any of the Journal’s readers have observed a similar case.

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Informed consent for IUD fitting

Perforation of the uterus is a rare complication of intrauterine device (IUD) fitting. It is quoted as occurring in up to 2% of women.1 Risk factors for perforation include previous caesarean section and postpartum insertion up to 6 months after delivery. Perforation may occur during the sounding of the uterus or the device itself may perforate the uterus. This can lead to the device being free in...