

CASE REPORT

Ectopic pregnancy with a translocated Mirena[®] intrauterine system

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Abstract

A woman, fitted with a Mirena[®] intrauterine system (IUS), presented with a positive pregnancy test and a 5-day history of per vaginam bleeding and left iliac fossa pain.

Beta-hCG level was raised at 1815 IU/l and a pelvic ultrasound scan showed a normal empty uterus. An abdominal x-ray showed that the IUS was in the left hypochondrium. At laparoscopy, an ectopic pregnancy was discovered in the left fallopian tube. The IUS was removed laparoscopically.

This is likely to be the first reported case of a simultaneous ectopic pregnancy and an extrauterine system. It is not clear whether removal of the Mirena[®] IUS was necessary.

Case report

A 39-year-old mother of two children presented with a positive pregnancy test despite having had a Mirena[®] intrauterine system (IUS) fitted about 2 years previously. She gave a 5-day history of per vaginam blood spotting and left iliac fossa pain. Speculum examination revealed the os of the cervix to be closed and no strings of the Mirena[®] IUS could be seen. Her last menstrual period was 7 weeks before presentation.

The insertion of the IUS was described by the patient as being painful and difficult. Since then, the patient had never been able to feel the strings of the Mirena[®] in her vagina and she had had regular menstrual periods until the time of presentation. The general practitioner (GP) who had fitted the system requested a pelvic ultrasound scan soon after its insertion. This showed that the IUS was in the uterus, but near to the cervix.

Beta-hCG level was raised at 1815 IU/l on the day of admission and a pelvic ultrasound scan showed a normal empty uterus with a moderately enlarged left ovary only. There was no mention of the IUS in the scan report, and an abdominal x-ray was taken to try to locate it. On the x-ray, the IUS was in the left hypochondrium.

Clinical findings and investigations were suggestive of an ectopic pregnancy and a laparoscopy was performed. At laparoscopy, there was blood in the pelvis and a mass, about 3 cm in diameter, was found in the ampulla of the left fallopian tube suggestive of an ectopic pregnancy. The right fallopian tube and both ovaries were normal. The Mirena[®] IUS was located in the greater omentum. Johan forceps were used to grasp the threads of the device laparoscopically and they were left in place while a mini-laparotomy was performed through a low transverse

incision. A small amount of omentum was removed together with the IUS, and a left partial salpingectomy was also performed. As the patient had requested sterilisation, two Filshie clips were placed on the right fallopian tube.

The patient made an uneventful recovery and was discharged 2 days later.

Discussion

The levonorgestrel-releasing IUSs are widely used for both their contraceptive effects and their non-contraceptive benefits, which include a reduction in heavy periods and a reduced incidence and growth of uterine fibroids.¹

The clinical suspicion of an ectopic pregnancy in this patient was made much easier when the extrauterine location of the IUS was discovered. The absolute rate of ectopic pregnancy in women with the Mirena[®] IUS is 0.02 per 100 woman-years,² which is much lower than with women using other forms of contraception.

There have been previous reports of copper intrauterine devices (IUDs) migrating into the abdominal cavity, with the most common sites being the omentum, rectosigmoid, peritoneum and the bladder.³ Kassab and Audra found 165 reported such cases in a literature review spanning 18 years, and they also reported a case of migration of an IUD detected during an intrauterine pregnancy.³ A Swedish survey⁴ of perforated IUDs showed that the majority of perforations were diagnosed with the occurrence of a pregnancy more than 1 month after insertion. However, a Medline search did not reveal any reported case of a simultaneous ectopic pregnancy and an extrauterine system.

We can only speculate on how long the IUS had been in that extrauterine location. Mirena[®] IUSs cause a significant change in the menstrual periods of most women in which they have been inserted. From the fifth month postinsertion a profound reduction in duration of bleeding is usual,¹ and amenorrhoea is also common after the first year of use.⁵ Our patient did not report any change in her menses after insertion. It may thus be possible that perforation of the uterus occurred very soon after insertion of the IUS.

The value of the first scan report, suggesting that the IUS was in the uterus but near to the cervix, can be questioned. A review of the scan pictures taken at the time was inconclusive. In hindsight, it may be possible that the coil was in the pouch of Douglas but close to the cervix. Also, it can be argued that it would have been worthwhile removing the IUS after that first scan as it was not in its correct location. If that was not possible, a computed tomography (CT) scan would then have been helpful in locating it.

This case also raises a number of interesting operative issues. It was technically not easy locating the IUS during laparoscopy. There is no clear evidence to suggest that removal of the Mirena® IUS was necessary, although most authors³ recommend removal of copper-containing devices because of the potential for inflammatory reactions that can cause bowel obstruction and perforation. In the Swedish study⁴ mentioned above, 64% of women with a perforated IUD underwent a laparotomy for removal of the IUD; no reasons for doing so were mentioned in that paper. This point would have been even more important if the IUS had not been detected at laparoscopy. A midline laparotomy incision would have been necessary and this seems over-treatment of the patient with no proven benefit for doing so. In this case, a small low transverse incision was carried out,

but if the IUS was not removed, it can be argued that the whole procedure could have been done laparoscopically and therefore reduced the potential for morbidity.

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