

# Recurrent Failure Of Mirena Intrauterine System (IUS) Within Two Years Of Insertion In The Same Woman With The Same Device

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## Abstract

Mirena (levonorgestrel-releasing) intrauterine system (IUS) is a very reliable method of contraception with the failure rate comparable to sterilization. We present a case of recurrent failure of the Mirena IUS in-situ in the same woman with two incidences of positive  $\beta$ -hCGs within two years of insertion of the same coil device, the first being suspected complete early miscarriage followed one year later by a confirmed ectopic pregnancy. Although LNG-IUS is one of the most effective methods of contraception, the risks of failure should always be kept in mind and the women be appropriately counseled before its use.

## CASE REPORT

The levonorgestrel-releasing intrauterine system (Mirena IUS) has been licensed as a contraceptive in the UK since May 1995<sup>1</sup>. A 31 year old G4P2 lady presented with complaints of sudden onset severe right iliac fossa pain for 24 hours and bleeding per vagina off and on since previous 2 weeks. Her LMP was 6 weeks previously. Urinary pregnancy test was positive. She was haemodynamically stable. Per abdominal examination revealed mild tenderness in the right iliac fossa but no associated guarding or rigidity. Speculum examination showed Mirena IUS threads in place but no evidence of active bleeding. Bimanual examination was unremarkable. Pelvic ultrasound showed a normal sized empty uterus with Mirena IUS in place. There was an adnexal mass on the right side separate from the ovary but no free fluid in the pouch of Douglas. Serum  $\beta$ -hCG was 674 IU/L. Diagnostic laparoscopy confirmed right sided tubal pregnancy and right salpingectomy was performed. The Mirena IUS was removed at the same time. She was discharged home the following day with a follow-up appointment to discuss various options for contraception.

She mentioned that 8 weeks following her normal delivery, 2 years previously, she had the Mirena IUS inserted without any problems. She always had regular periods following the insertion of the coil lasting 4-5 days. She gave a history of an episode of heavy bleeding per vagina 1 year since the insertion of the coil following 1 month's amenorrhoea. At that time she also had positive urinary pregnancy test and

was seen in the early pregnancy assessment unit in our hospital. On examination, the threads of the coil were visible through the external os and transvaginal ultrasound confirmed empty uterus with the coil in place. She was followed up with serial  $\beta$ -hCGs every 48 hours, which were 312, 250 and 218 IU/L respectively. One week following this she had a further  $\beta$ -hCG which was 99 IU/L and she was asymptomatic. It was thought to be a case of resolving ectopic pregnancy or a complete miscarriage. The Mirena IUS was confirmed to be in place and it was within 1 year of insertion so it was not changed at that time.

## DISCUSSION

Data from randomized trials reported no ectopic pregnancies in a total of 34,944 woman-months and an annual pregnancy rate averaged 0.2 women per 100 years of LNG-IUS use<sup>2,3</sup>. The National Health Service Health Technology Assessment Programme report also mentioned of the risk of ectopic pregnancies being similar for the LNG-IUS and modern IUDs (>250 mm<sup>2</sup> copper) and in absolute terms it is very low indeed<sup>4</sup>. In Finland, a large retrospective study showed that 17,360 users of the LNG IUS had a 5-year cumulative pregnancy rate per 100 users was 0.5 and the 5-year Pearl Index rate was 0.11<sup>5</sup>.

Our case is reported because of its rarity, since extensive Medline literature search did not reveal any case of failure of Mirena IUS twice in the same woman within a space of 2 years with the same coil in place. Although LNG-IUS is one

of the most effective methods of contraception, the chances of failure should always be kept in mind and the women be appropriately counseled before its use.

### **References**

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