The intrauterine device and ectopic pregnancy

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Abstract

Based on data given by case-control and cohort studies the relationships between current and past IUD use, duration of IUD use and the type of IUD were evaluated to determine the risk of ectopic pregnancy among IUD users. The results of this review indicate that current and past IUD users do not have an increased risk of ectopic pregnancy. No relationship was found between the duration of IUD use, for either current or past IUD users, and the risk of ectopic pregnancy. Pooled data from clinical studies of different types of IUD showed that the lowest risk of ectopic pregnancy was for users of copper-bearing IUDs, and the highest risk was for users of progesterone-releasing IUDs. Further research is needed to evaluate the ectopic pregnancy risks to past IUD users, especially in view of recent studies which have shown that these women may be at a higher risk of infertility.

Introduction

In 1965, Lippes [1] reported 4 ectopic pregnancies (17.4%) among 23 women who had become pregnant with a Lippes Loop in situ. Since the ectopic pregnancy rate in the general population in the United States in 1965 was estimated to be about 1 in 289 pregnancies (0.4%) [2], there was concern that IUD use might significantly increase the risk of ectopic pregnancy. The uniform finding of researchers who have investigated the incidence of ectopic pregnancy in the United States is that during the 1970s its incidence increased [2–8]. Since 1965, numerous reports have provided data on the risk of ectopic pregnancy to IUD users and have discussed whether IUD use has contributed to the increasing incidence of ectopic pregnancy. Even with the extensive work which has been done on this topic, there are still some unanswered or only partially answered questions relating to the use of IUDs and the risk of ectopic pregnancy, including the following:
1. Is the incidence of ectopic pregnancy in IUD users similar to that in women using no method of contraception?
2. Do women who discontinue IUD use have a similar incidence of ectopic pregnancy compared to non-contraceptors?
3. Is the incidence of ectopic pregnancy similar for users of different types of IUD who become pregnant with their IUDs in situ?

In the following sections of this report these questions are evaluated.

Incidence of ectopic pregnancy: IUD users versus non-users

Although the risk of ectopic pregnancy to IUD users has been evaluated in many publications [9], there is little information available on the relative risks of ectopic pregnancy for IUD users compared to non-users of IUDs or users of other methods of contraception. Three studies have evaluated this issue: the Women’s Health Study (WHS), the Oxford Family Planning Association study in the UK, and a multiclinic, international study conducted by the World Health Organization (WHO).

The WHS was a large case-control study conducted at 16 hospitals in 9 cities in the United States in 1976–78. The study was designed to estimate the relative risks of gynecologic and obstetric complications severe enough to require hospitalization for women using IUDs. The results of the WHS have been published in at least 8 papers, including one on ectopic pregnancy [10]. As a case-control study, the WHS did not provide data on the incidence of ectopic pregnancy in IUD users versus non-users of IUDs. A reanalysis of some of the data from the WHS is given in Table 1. This shows that women who were using IUDs at the time of their last menstrual period, i.e., pregnancy occurred while they were using IUDs, and who

<table>
<thead>
<tr>
<th>Time from last use of IUD</th>
<th>Duration of IUD use (years)</th>
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<tbody>
<tr>
<td></td>
<td>RR &lt;2 95% CL</td>
</tr>
<tr>
<td>Used at last menstrual period</td>
<td>0.49 0.30,0.79</td>
</tr>
<tr>
<td>Used in last year but not at last menstrual period</td>
<td>0.97 0.58,1.6</td>
</tr>
<tr>
<td>Used more than one year previously</td>
<td>1.2 0.83,1.8</td>
</tr>
</tbody>
</table>

RR = relative risk; CL = confidence limits
*Mantel-Haenszel estimate adjusted for duration of IUD use