Immediate postpartum insertion of intrauterine device for contraception

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Key findings

This updated review aimed to compare immediate (within 10 minutes of placenta delivery) intrauterine device (IUD) insertion with later placement.

When compared with early insertion (10 minutes – 48 hours post-delivery), immediate insertion resulted in:

- No difference in expulsion rates at 6 months
- No differences in the rate of IUD usage at 6 months
- Insufficient data to comment on rates of adverse events.

When compared to standard insertion at 4-12 weeks postpartum, immediate insertion resulted in:

- No differences in overall IUD placement, although one trial showed higher rates of insertion in the immediate insertion arm.
- An increase in the rate of expulsion at 6 months
- An increase in the rate of IUD usage at 6 months
- Complications were few and similar in both groups. No cases of perforation or pelvic inflammatory disease reported.

No significant differences regarding type of delivery, type of device or insertion technique.

Evidence included in this review

The review includes 15 RCTs (8243 women) comparing immediate IUD placement within 10 minutes of placenta delivery to placement at later times. Seven recent trials (884 women) were added in this updated version comparing different IUD postpartum insertion times. Three of these trials used LNG-IUS and one CuT380A. Three trials inserted the IUD only after vaginal delivery, two only after caesarean section, and two after either delivery type.

Quality assessment

There was a moderate risk of bias across the included studies, with limited use of blinding, moderate to high loss to follow-up and unclear randomization procedures in some studies. The evidence was graded as moderate by GRADE criteria for primary outcomes.

Clinical implications
There is limited evidence to guide practice. Immediate insertion may increase insertion rates of IUDs, however expulsion rates are higher. This mandates clinical follow-up to ensure ongoing effective contraception for anyone having immediate insertion.

Further research

Adequately powered studies examining this topic are required. Additionally, research is required to explore differences between immediate insertion following vaginal delivery compared with caesarean section, long-term follow-up and adverse events.

Cochrane review


Abstract

Women who want to start intrauterine contraception (IUC) during the postpartum period might benefit from IUC insertion immediately after delivery. Postplacental insertion greatly reduces the risk of subsequent pregnancy and eliminates the need for a return visit to start contraception. Without the option of immediate insertion, many women may never return for services or may adopt less effective contraception.

Our aim was to examine the outcomes of IUC insertion immediately after placenta delivery (within 10 minutes), especially when compared with insertion at other postpartum times. We focused on successful IUC placement (insertion), subsequent expulsion, and method use.

We searched for trials until 1 April 2015. Sources included PubMed (MEDLINE), the Cochrane Central Register of Controlled Trials (CENTRAL), POPLINE, Web of Science, EMBASE, LILACS, ClinicalTrials.gov, and ITRP. For the original review, the authors contacted investigators to identify other trials.

We sought randomized controlled trials (RCTs) with at least one treatment arm that involved immediate IUC placement (i.e., within 10 minutes of placenta delivery). Comparison arms could have included early postpartum insertion (from 10 minutes postplacental to hospital discharge) or standard insertion (during a postpartum visit). Trials could also have compared different IUC methods or insertion techniques. Delivery may have been vaginal or cesarean. Primary outcomes were placement (insertion), subsequent expulsion, and method use at study assessment.

For dichotomous outcomes, we used the Mantel-Haenszel odds ratio (OR) with 95% confidence interval (CI). Earlier studies primarily reported results as life-table rates. We aggregated trials in a meta-analysis if they had similar interventions and outcome measures. A sensitivity analysis included studies with moderate or high quality evidence and sufficient outcome data.

We included 15 trials. Seven studies reported from 2010 to 2014 were added to eight from the original 2001 review. Newer trials compared immediate postplacental insertion versus early (10 minutes to 48 hours) or standard insertion (during the postpartum visit). Of four with full reports, three were small trials. The other three studies had conference abstracts. The eight early trials examined immediate insertion of different devices or insertion techniques. Most studies were published in the 1980s, some with limited reporting.
Our sensitivity analysis included trials with sufficient outcome data and moderate or high quality evidence. Four newer trials comparing insertion times met the inclusion criteria. Two studies used the levonorgestrel-releasing intrauterine system (LNG-IUS) after vaginal delivery. The other two trials placed IUC after cesarean section; one used the CuT 380A intrauterine device (IUD) and the other used the LNG-IUS.

A pilot trial compared immediate insertion versus early or standard insertion. In groups comparing immediate versus early insertion (N = 30), all women had the LNG-IUS inserted. By six months, the groups had the same expulsion rate and did not differ significantly in IUC use.

For immediate versus standard insertion, we conducted meta-analyses of four trials. Insertion rates did not differ significantly between study arms. However, the trial from Uganda showed insertion was more likely for the immediate group, although the estimate was imprecise. In the meta-analysis, expulsion by six months was more likely for the immediate group, but the confidence interval was wide (OR 4.89, 95% CI 1.47 to 16.32; participants = 210; studies = 4). IUC use at six months was more likely with immediate insertion than with standard insertion (OR 2.04, 95% CI 1.01 to 4.09; participants = 243; studies = 4). Study arms did not differ in use at 3 or 12 months in individual small trials.

Recent trials compared different insertion times after vaginal or cesarean delivery. Evidence was limited because studies with full reports generally had small sample sizes. Overall, the quality of evidence was moderate; abstracts and older studies had limited reporting. Ongoing trials will add to the evidence, although some are small. Trials of adequate power are needed to estimate expulsion rates and side effects.

The benefit of effective contraception immediately after delivery may outweigh the disadvantage of increased risk for expulsion. Frequent prenatal visits during the third trimester provide the opportunity to discuss effective contraceptive methods and desired timing for initiation. Clinical follow-up can help detect early expulsion, as can educating women about expulsion signs and symptoms.