Surgical versus medical methods for second-trimester induced abortion

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For second-trimester induced abortion, dilation and evacuation is superior to medical methods of abortion. However, specialized training and consistent practice are needed to perform this method safely. Where practitioners with appropriate skills and experience are unavailable, medical methods may be more appropriate.

RHL Commentary by Cheng L

1. EVIDENCE SUMMARY

The aim of this review (1) was to compare efficacy, side-effects, adverse events, and acceptability of surgical and medical methods of inducing abortion during the second trimester of pregnancy. Randomized controlled trials comparing any surgical method of abortion to any medical method of abortion at ? 13 weeks' gestation were included. The authors identified trials using PubMed, EMBASE, POPLINE, and the Cochrane Central Register of Controlled Trials (CENTRAL). They also searched the reference lists of identified studies, relevant review articles, book chapters, and conference proceedings for additional, previously unidentified studies. The authors also contacted experts in the field for information on other published and unpublished research.

Only two studies met the inclusion criteria for this review. One had compared dilatation and evacuation (D&E;) with intra-amniotic instillation of prostaglandin F2?. The second study compared D&E; with induction with oral mifepristone (200 mg) and misoprostol (800 µg vaginally followed by 400 µg orally every 3 hours). The combined incidence of minor complications (defined by the authors as 'haemorrhage not requiring transfusion, febrile morbidity, cervico-vaginal trauma and prostaglandin reaction') was lower with D&E; compared with prostaglandin instillation [odds ratio (OR) 0.17; 95% confidence interval (CI) 0.04–0.65] as was the total number of minor and major complications (OR 0.12; 95% CI 0.03–0.46). The number of women experiencing adverse events was also lower with D&E; than with mifepristone and misoprostol (OR 0.06; 95% CI 0.01–0.76). Although women treated with mifepristone and misoprostol reported significantly more pain than those undergoing D&E;, efficacy and acceptability were the same in both groups. In both trials, fewer subjects randomized to D&E; required overnight hospitalization.

2. RELEVANCE TO UNDER-RESOURCED SETTINGS

2.1. Magnitude of the problem
More than one third of the approximately 205 million pregnancies that occur each year worldwide are unintended and about 20% of them end in induced abortion (2). A vast majority (90%) of these abortions take place during the first trimester of pregnancy. The second trimester of pregnancy (also called mid-trimester) is the period from 13 to 28 weeks of gestation. It is subdivided into an 'early period' (between 13 and 20 weeks) and a 'late period' (between 20 and 28 weeks). Worldwide, 10%–15% of all induced abortions occur during the second trimester. Overall, two thirds of all major complications of abortions are attributable to those performed in the second trimester (3).

Over the past 30 years, there have been continuing efforts to improve abortion technology in terms of effectiveness, safety (lower complication risk), technical ease of performance and acceptability. The optimal method for second-trimester abortion continues to be debated (4). It is important to determine which is the best method because abortions performed in the second trimester account for a disproportionate amount of abortion-related morbidity and mortality (3). The overall risk of death is 10 times higher with D&E; abortion than with first trimester suction curettage (5), and the risk of mortality increases progressively with advancing gestational age (6). Any attempt to reduce mortality and morbidity from this procedure can bring significant benefits to the quality of life for the women undergoing this procedure.

### 2.2. Applicability of the results

In this review, D&E; was found to be superior to the two medical methods studied (intra-amniotic instillation of prostaglandin F2α and a combination of mifepristone and misoprostol). It should be noted, however, that to perform D&E; safely, health-care providers need specialized training and an adequate caseload to maintain their skills. Guidelines issued by the United Kingdom Royal College of Obstetricians and Gynaecologists recommend that inexperienced providers use medical methods (7). In China, for second-trimester abortions, facilities and equipment required for the surgical method are often lacking. In such settings medical abortion may be easier to perform. Also, medical abortions can be performed by mid-level health-care providers rather than experienced surgeons. Hence, the findings of this review are likely to be less applicable in under-resourced settings.

Use of D&E; and medical methods varies in different parts of the world. For example, D&E; is used for 96% of abortions performed at ≥13 weeks’ gestation in the USA and 75% of those in England and Wales (8, 9). In contrast, in China, Finland and Sweden, virtually all abortions in the second trimester are performed using medical methods. Induction with mifepristone and misoprostol for termination of pregnancies of 10–16 weeks’ gestation, and intra-amniotic administration of ethacridine lactate (Rivanol) for termination of >16 week’s gestation are routine methods in clinical practice in China (10, 11). Intra-amniotic instillation techniques of prostaglandin F2α for termination of second trimester pregnancy is not used in modern abortion care (12).

### 2.3. Implementation of the intervention

In many parts of the world D&E; is the standard method for termination of pregnancies of over 13 weeks of gestation. The conventional suction method is regarded as being appropriate for pregnancies of between 12 and 15 weeks of gestation, whereas D&E; is considered to be a safe and an effective option for gestations above 15 weeks when undertaken by specialist practitioners with appropriate experience (7). Cervical injury is more frequent with D&E; in the second trimester. Hence, preoperative cervical priming is used to reduce cervix-related complications. Even though the safety and efficacy of D&E; for termination of second-trimester pregnancy has been found to be superior to medical methods in this review, some practitioners find it very distressing to perform this procedure at an advanced stage of gestation (12).

The Royal College of Obstetricians and Gynaecologists recommends medical abortion with mifepristone followed by a prostaglandin as a safe and effective method for second-trimester abortion (7). It has been established that pretreatment with the mifepristone 36–48 hours before the administration of the prostaglandin can increase the success rate, shorten the induction-to-abortion interval and reduce the amount
of prostaglandin required in second-trimester abortion (13, 14). Recently, it has been shown that misoprostol administered by the vaginal or sublingual route is more effective than oral misoprostol after pretreatment with mifepristone, although more women preferred the oral route. In areas where mifepristone is not available, sublingual or vaginal misoprostol without mifepristone pretreatment could be used as an alternative regimen (12). Routine surgical evacuation of the uterus is not required following second-trimester medical abortion. It should only be undertaken if there is clinical evidence that the abortion is incomplete (12). Gastrointestinal side-effects (nausea, vomiting and diarrhoea), painful uterine contractions and fever (> 38°C) are common but not serious with medical abortion. Uterine rupture occurs rarely in second-trimester medical terminations of pregnancy, but providers should be aware of this risk (15).

Implementing the findings of this review would be difficult in settings lacking in appropriate facilities and trained staff. In such settings, medical methods may be more appropriate.

3. RESEARCH

Only two studies met the inclusion criteria for this review. Both of them had been conducted in the USA and had a small number of participants. There are no evidence-based data from developing countries such as China, India and Viet Nam where there are more second trimester abortion than in developed countries. Trials of adequate power are needed from such settings to compare currently used medical (mifepristone combined with misoprostol, misoprostol administered by vaginal or by sublingual route and intra-amniotic administration of ethacridine lactate) and surgical methods of abortion for termination of pregnancies in the second trimester.

References


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