Medical abortion in early pregnancy: a review of the evidence

Grimes D A

Authors’ objectives
To review the efficacy, safety and side-effects of medical abortion in early pregnancy.

Searching
MEDLINE was searched from 1980 for reports published in English or French using the keywords ‘mifepristone’, ‘methotrexate’ and ‘early abortion’; in addition, MEDLINE was searched using authors’ surnames. Additional material was located by examining reference lists and review articles, and by contacting investigators in the field.

Study selection
Study designs of evaluations included in the review
Randomised controlled trials (RCTs; with more than 100 participants in mifepristone studies), cohort studies and case series were included.

Specific interventions included in the review
Mifepristone in combination with a prostaglandin, and methotrexate with or without a prostaglandin.

Participants included in the review
Women undergoing medical abortion (gestational limit ranged from 49 to 63 days) were included.

Outcomes assessed in the review
The outcomes were complete abortions, blood transfusion, vomiting, diarrhoea and the use of narcotics for analgesia.

How were decisions on the relevance of primary studies made?
One reviewer made decisions on study relevance. The studies had to include regimens of mifepristone in combination with a prostaglandin and methotrexate with or without a prostaglandin.

Assessment of study quality
The US Preventive Services Task Force grading scheme was used to evaluate the quality of the evidence and the strength of the recommendation. One reviewer applied the US Preventive Task Force grading scheme.

Data extraction
One reviewer extracted the data.

Methods of synthesis
How were the studies combined?
Relative risks and confidence intervals (CIs) were calculated for comparative studies, and exact binomial 95% CIs for rates of complete abortion. Only the results of the 9 case series studies were pooled.

How were differences between studies investigated?
The results are presented according to study design, based on the recommendations of the US Preventive Task Force.

Results of the review
Thirty studies in total: 7 RCTs (n=3,563), 3 cohort studies and 9 case series of mifepristone; 2 RCTs, 1 cohort study and 8 case series of methotrexate.
RCT evidence supports the recommendation that 200 mg oral mifepristone is as effective as 600 mg when each is followed by a prostaglandin. The sequential and single-dose regimens of mifepristone have similar efficacies. Vaginal misoprostol (800 microg) as an augmenting agent is more effective than the same dose given orally. Complete abortions ranged from 87 (95% CI: 80, 92) to 97 (95% CI: 93, 99). Vomiting ranged from 12 to 44% and diarrhoea from 7 to 44%. In the 9 case series, the overall complete abortion rate was 93.9% (95% CI: 93.1, 94.6).

With methotrexate abortion, 800 microg of misoprostol given vaginally 7 days after methotrexate is superior to the same dose given 3 days after. Methotrexate in combination with misoprostol is more effective than misoprostol alone.

Authors' conclusions
Medical abortion with mofepristone or methotrexate in combination with a prostaglandin is safe and effective. However, the risk of haemorrhage and gastrointestinal side-effects is greater with medical abortion than with suction curettage. Further research should be performed to compare mifepristone and methotrexate abortions, to determine the upper gestational age limit and to find the best way to provide this service in the US health care system.

CRD commentary
Detailed information is given about each included study in the text, although not all studies are summarised in tabular format. It may have been appropriate to include outcome measures (where reported in the individual studies) relating to women's satisfaction with the procedure.

Implications of the review for practice and research
The potential of both methotrexate and misoprostol to cause birth defects in failed attempt abortion is unknown.

Bibliographic details

PubMedID
9166323

Other publications of related interest

Indexing Status
Subject indexing assigned by NLM

MeSH
Abortifacient Agents, Steroidal; Abortion, Induced /adverse effects /methods; Administration, Oral; Female; Humans; Methotrexate; Mifepristone; Pregnancy; Pregnancy Trimester, First; Prostaglandins; Research Design

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Record Status
This is a critical abstract of a systematic review that meets the criteria for inclusion on DARE. Each critical abstract contains a brief summary of the review methods, results and conclusions followed by a detailed critical assessment on the reliability of the review and the conclusions drawn.