Does a cervical membrane sweep in a term healthy pregnancy reduce the length of gestation?

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CRD summary
This review concluded that there was no statistically significant difference in the length of the gestation of pregnancy when women who had received a single cervical sweep were compared with those who had not. This conclusion reflects the evidence presented; the limitations of the sparse evidence base mean that the recommendations for clinical practice and further research are justified.

Authors' objectives
To evaluate the effectiveness of one cervical membrane sweep for reducing the length of gestation in healthy term pregnancy.

Searching
The Cochrane Library, MEDLINE, and Maternity and Infant Care databases were searched for publications in English. Search terms were reported, but end dates of search not reported. The reference list of a relevant Cochrane review was handsearched to locate further studies.

Study selection
Eligible studies were randomised controlled trials (RCTs) that examined the effectiveness of one cervical membrane sweep in single healthy term pregnancies (37 to 42 weeks of gestation) with a cephalic presentation for both nulliparous and multiparous women. To be included, trials had to describe the method of the sweep. The primary outcome was the time interval between randomisation and birth. Trials of women with high-risk pregnancies, a non-viable foetus, medical illness, or women who were labouring or had ruptured membranes prior to randomisation were excluded. Unpublished/difficult to access papers were also excluded, along with trials of alternative methods of induction of labour, and trial that excluded women post-randomisation for having a closed cervix.

All of the included trials contained healthy, nulliparous and multiparous women with low-risk pregnancies. Control groups did not receive a cervical membrane sweep or any other methods of intervention. The outcome for comparison in all of the trials was the time interval between randomisation and birth (from 39 to 41 weeks gestation).

It was not clear how many reviewers were involved in study selection.

Assessment of study quality
The quality of the RCTs was assessed using the NICE methodology checklist. This included criteria for randomisation, allocation concealment, blinding of participants and investigators, comparability of groups at baseline, and percentage of drop-outs.

It was not clear how many reviewers were involved in study selection.

Data extraction
Data (mean and standard deviation values) were extracted. All included trials reported the point estimate of the delay from randomisation to birth; these data were converted into a 24-hour day period to allow easier comparison.

It was not clear how many reviewers were involved in study selection.

Methods of synthesis
Data were presented within a narrative synthesis and in tables. Data were also synthesised statistically using a random-effects meta-analysis.

Heterogeneity was assessed using Cochran’s Q and I². Possible reasons for any statistical heterogeneity were discussed in the narrative synthesis.
Results of the review
Three RCTs were included in the review (419 women). The three trials seemed to generally be of high quality; a breakdown of the results was provided in the review.

Two of the three trials reported that the intervention groups experienced statistically significant reductions in the time interval from randomisation to birth, compared with control groups (p values of 0.041 and 0.01). The remaining trial found the opposite effect; the time interval was marginally longer for the intervention group, although this was not statistically different from the time interval for the control group.

Meta-analysis of the three trials showed no statistically significant difference between the groups for the time interval from randomisation to birth; some heterogeneity between the trials was present ($\chi^2$=51.3%).

Authors' conclusions
This review suggested that there was no statistically significant difference in length of pregnancy from term when women who had received a single cervical sweep were compared with those who had not.

CRD commentary
The review question and inclusion criteria were clearly defined. Relevant data sources were accessed, although the omission of articles that were unpublished, difficult to access or not in English meant that relevant studies may have been missed. It was unclear how many reviewers were involved in the review processes but it appeared that only one reviewer was involved, so the presence of reviewer error and bias could not be ruled out.

Suitable quality assessment criteria were used; the included trials were generally of high quality; a full breakdown of the results was reported. The methods of synthesis seemed appropriate, although some statistical heterogeneity between the trials was indicated. Other limitations of the evidence included a small number of trials, small sample sizes, and lack of reporting for length of labour.

The conclusion of this review reflects the evidence presented; the limitations of the sparse evidence base mean that the recommendations for clinical practice and further research were justified.

Implications of the review for practice and research
**Practice:** The author stated that women need to be informed of the inconclusive evidence of central membrane sweep for reducing the length of pregnancy, and should be made aware of the risks associated with prolonged pregnancy and induction of labour.

**Research:** The author stated that further research was needed to provide clear recommendations for practice; such research should include large sample sizes, subgroups of parity, and examination of the role of serial cervical membrane sweep.

Funding
Not stated.

Bibliographic details
Rogers H. Does a cervical membrane sweep in a term healthy pregnancy reduce the length of gestation? MIDIRS Midwifery Digest 2010; 20(3): 315-319

Indexing Status
Subject indexing assigned by CRD

MeSH
Extraembryonic Membranes; Humans; Labor, Induced; Pregnancy; Time Factors

AccessionNumber
12011000682
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.