Repeat external cephalic version: is it worth the effort?
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Record Status
This is a critical abstract of an economic evaluation that meets the criteria for inclusion on NHS EED. Each abstract contains a brief summary of the methods, the results and conclusions followed by a detailed critical assessment on the reliability of the study and the conclusions drawn.

Health technology
Repeat external cephalic version (ECV) to aid childbirth delivery.

Type of intervention
Treatment.

Economic study type
Cost-effectiveness analysis.

Study population
Women who underwent repeat external cephalic version after initial failed version. No other characteristics were given.

Setting
The practice setting was a hospital. The economic study was carried out in San Francisco, California, USA.

Dates to which data relate
Effectiveness data were from 1987 to 1992. Resources used and costs were calculated at the same time and were all later converted into 1992 prices.

Source of effectiveness data
Effectiveness data were derived from a single study.

Link between effectiveness and cost data
Costing was undertaken on the same patient sample and at the same time as the effectiveness study.

Study sample
The sample was selected by clinical protocol: all women who underwent repeat external cephalic version after initial failed version. The authors reported that other papers do mention repeat version, but this has not previously been systematically evaluated; hence the study sample is appropriate to the clinical study question. Power calculations did not determine the sample size. 36 women were included in the study.

Study design
This was a retrospective cohort study carried out at a single centre.
Analysis of effectiveness
Analysis was based on treatment completers only. The primary health outcome used was the successful achievement of the vertex position in labour; this then affected the need for cesarean section. No comparison of intervention and possible control group populations was carried out.

Effectiveness results
6 (17%) out of 36 fetuses were successfully turned to the vertex position using repeat ECV. Confidence intervals were not given.

Clinical conclusions
Initial ECV success rate was 49%. With the addition of the successful repeat versions the total success rate was 52%. Given that this intervention is safe, it is recommended as an effective means to decrease the incidence of breech presentations in labour at term and the cesarean section rate.

Measure of benefits used in the economic analysis
Equal final outcomes were assumed for mothers and babies. Therefore the economic analysis looked at differences in costs only.

Direct costs
Only hospital costs were considered. Costs and quantities were analysed together using the patient billing system from 1987 to 1992. Costs were all converted to 1992 prices by multiplying actual total cost for each patient by the percentage increase the hospital charged each year.

Statistical analysis of costs
Fisher's exact test and Student's t test were performed.

Currency
US dollars ($)

Sensitivity analysis
No sensitivity analysis was performed.

Estimated benefits used in the economic analysis
Not applicable.

Cost results
The cost of a repeat ECV in 1992 was $300. The total repeat ECV cost was $10,800 for the 36 patients. Total delivery cost per woman with a successful repeat ECV was $5,059 (+/- $2,656, p=0.03, t test). The total delivery cost per woman who failed the repeat ECV was $8,042 (+/- $3,439, p=0.03, t test). So the 6 women in the study with a successful repeat ECV incurred a cost of $30,354 instead of $48,252: a difference of around $18,000. If the cost of all repeat ECV is then subtracted there is still a saving of $7,200.

Synthesis of costs and benefits
Not applicable.
Authors' conclusions
Repeat ECV was associated with a decrease in the cesarean section rate and hospital cost and should be considered in the management of nonvertex term presentations.

CRD Commentary
The authors reported that other papers do mention repeat ECV but this has not previously been systematically evaluated, hence the authors' own study was used to address this specific question more appropriately. The sample was not randomised and was selected retrospectively from a single centre using clinical criteria and so may be biased and unrepresentative. The sample size was small and lacks power, for example to evaluate factors that might predict success of a repeat ECV. The economic study was designed as a cost-minimisation analysis, which assumes equal final outcome for mother and baby whatever technology is applied to delivery. This is unlikely really to be the case as, for example, a cesarean section must carry more risks and distress than other interventions. In this sense, only considering differences in costs may be too restrictive. Including the patient's perspective might produce different results to the analysis. The results of this study may be sensitive to the variables used, but the authors did not consider this. The authors did acknowledge that further research is needed and that this study was not a rigorous economic evaluation.

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Bibliographic details

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