

Factors Associated With a Successful External Cephalic Version in the Early ECV Trial

Eileen K. Hutton, PhD,¹ Carolyn A. Saunders, BA,² Maobing Tu, PhD,³ Kathrin Stoll, MA,² Jonathan Berkowitz, PhD,⁴ for the Early External Cephalic Version Trial Collaborators Group*

¹ Department of Obstetrics and Gynecology, McMaster University, Hamilton ON

² Division of Midwifery, Department of Family Practice, Faculty of Medicine, University of British Columbia, Vancouver BC

³ Department of Wood Sciences, University of British Columbia, Vancouver BC

⁴ Department of Family Practice, University of British Columbia, Vancouver BC

*The members of the Early External Cephalic Version Trial Group are listed in the Appendix.

Abstract

Objectives: The objective of this research was to determine factors that were associated with a successful external cephalic version (ECV) procedure.

Methods: We undertook a secondary analysis of data from a randomized controlled trial, The Early External Cephalic Version (Pilot) Trial. In this secondary analysis, we included data for the subset of 178 women who had an ECV as part of the pilot trial (123 nulliparous women with any breech presentation and 55 multiparous women with a frank breech presentation only). Using this dataset, we began with two separate univariate analyses, one of characteristics that could be determined before undertaking a procedure, and the other of factors associated with the ECV procedure itself. Variables that had a *P* value of ≤ 0.1 in the univariate analyses were included in two separate logistic regression models, one for preprocedural and one for procedural factors, using a backward elimination approach.

Results: Multiparity and a non-engaged presenting part were significant preprocedural predictors of ECV success. Procedural factors predictive of ECV success included lower reported maternal pain scores during the procedure, a single attempt at ECV, and a more mobile fetus.

Conclusion: Non-engagement of the presenting part was the only modifiable factor predicting ECV success that was identified in this analysis, and it supports the hypothesis that beginning the ECV procedure earlier in pregnancy, prior to engagement, may have merit. The Early ECV 2 Trial is in progress and will further test this hypothesis.

Key Words: Breech, external cephalic version, Caesarean section, predictors of success

Competing Interests: None declared.

Received on May 24, 2007

Accepted on September 26, 2007

Résumé

Objectifs : Cette recherche avait pour but de déterminer les facteurs qui étaient associés à la réussite d'une intervention de version céphalique par manœuvres externes (VCE).

Méthodes : Nous avons entrepris une analyse secondaire des données issues d'un essai comparatif randomisé, soit l'essai *The Early External Cephalic Version (Pilot) Trial*. Pour cette analyse secondaire, nous avons inclus les données du sous-ensemble de 178 femmes qui avaient subi une VCE dans le cadre de l'essai pilote (123 femmes nullipares connaissant une présentation du siège [quelle qu'elle soit] et 55 femmes multipares connaissant une présentation du siège décomplété seulement). Au moyen de cet ensemble de données, nous avons procédé à deux analyses univariées distinctes : l'une d'entre elles portant sur les caractéristiques qui pourraient être recherchées avant la tenue de l'intervention et l'autre, sur les facteurs associés à l'intervention de VCE elle-même. Les variables qui détenaient une valeur $P \leq 0,1$ dans le cadre des analyses univariées ont été incluses dans deux modèles de régression logistique distincts (l'un d'entre eux portant sur les facteurs préinterventions et l'autre, sur les facteurs associés à l'intervention), au moyen d'une approche d'élimination régressive.

Résultats : La multiparité et une présentation non engagée constituaient des prédicteurs préinterventions significatifs de la réussite de la VCE. Parmi les facteurs associés à l'intervention qui permettaient de prédire la réussite de la VCE, on trouvait le signalement de scores de douleur maternelle moindres au cours de l'intervention, le fait de ne procéder qu'à une seule tentative de VCE et la présence d'un fœtus plus mobile.

Conclusion : Le non engagement de la présentation constituait le seul facteur modifiable pouvant prédire la réussite de la VCE que cette analyse a permis d'identifier; ce qui soutient l'hypothèse selon laquelle il pourrait s'avérer indiqué de débiter l'intervention de VCE plus tôt (avant l'engagement) au cours de la grossesse. L'essai *Early ECV 2 Trial* est en cours et contribuera à déterminer la validité de cette hypothèse.

J Obstet Gynaecol Can 2008;30(1):23-28

INTRODUCTION

External cephalic version effectively reduces the rates of breech presentation and Caesarean section in women with a fetus presenting as a breech at term; however, rates of success are relatively low.¹⁻³ In order to determine if there were any factors that could be used to predict success of the ECV procedure in our trial population, we performed a secondary analysis on data from a randomized controlled trial. The pilot study, conducted between July 1999 and February 2002, compared early and delayed ECV.¹ It included only women who were most likely to benefit from beginning the procedure early; that is, those who were nulliparous (65%) with any breech presentation or who were multiparous with a frank breech presentation and parity < 5.⁴⁻¹⁷ It was considered that multiparous women with other than frank breech presentations were most likely to experience spontaneous version prior to 37 weeks, and they were thus less likely to benefit from the pilot trial intervention. For the 116 women randomized to the early ECV group, the first ECV procedure was planned for between 34 weeks 0 days and 36 weeks 0 days of gestation. For the 116 women randomized to the delayed ECV group, the first ECV procedure was planned for between 37 weeks 0 days and 38 weeks 0 days.¹ Eighty-six percent of women (n = 100) randomized to the early ECV group and 67% of women (n = 78) in the delayed ECV group had had at least one ECV procedure. Of the 178 women who had an ECV as part of the pilot trial, 54 (30.3%) had a successful procedure. Forty-one of the 54 women with successful ECVs (76%) went on to have a cephalic vaginal delivery.

MATERIAL AND METHODS

Data for this secondary analysis were collected as part of the Early External Cephalic Version Pilot Trial, approved by the Office of Research Services at the University of Toronto on September 11, 1998. Approval from the clinical research ethics boards of each participating centre was obtained prior to the recruitment of women into the pilot trial. The data collected were related to potential predictors of success, using the existing literature as a guide to which variables might be important. Additional details about the

data collection and methodology used in the EECV Pilot Trial are provided in the published report.¹

For the secondary analysis of predictors of ECV success, we felt that it was clinically important to consider factors that could be determined prior to the procedure (preprocedural factors) separately from factors that could only be determined as part of the ECV procedure itself (procedural factors). The secondary analysis included 11 preprocedural factors: fundal height, body mass index at the time of randomization, amniotic fluid index at the time of randomization, previous breech birth, parity, placental location, type of breech, fetal position, the condition of abdominal wall musculature, abdominal obesity, and the station of the presenting part at the time of the procedure. The analysis included seven procedural factors: maternal pain experienced during the ECV procedure, number of attempts at ECV, use of tocolytic, uterine tone during the procedure, palpability of the fetal head during the procedure, mobility of the fetus during the procedure as determined by palpation, and gestational age at the time of the procedure. Station was assessed clinically as “floating,” “dipping,” or “well into pelvis or engaged.” Maternal pain was quantified using a visual analogue scale with the end-points of “pain free/ total comfort” and “most extreme pain imaginable.” Uterine tone, palpability of the fetal head, and mobility of the fetus were all assessed clinically by the practitioner at the time of the procedure.

Data were analyzed, using the SPSS version 12 (SPSS Inc., Chicago IL). We began by using univariate analyses to find associations between each of the preprocedural and procedural factors and the success of the woman’s first ECV procedure. We used the Student *t* test for continuous data and the chi-square test for categorical data.

In order to determine possible predictors of ECV success in this study population, those variables with a *P* value of ≤ 0.1 were then included in one of two separate logistic regression models, one including preprocedural factors and the other including procedural factors. Factors were entered using a Wald backward elimination approach.

RESULTS

The results of the univariate analyses are shown in Table 1. Four preprocedural factors were identified as being associated at a significance level of $P \leq 0.1$ with ECV outcome (0 = ECV failed; 1 = ECV succeeded). Nulliparity, muscular abdominal wall, obese abdomen, and engaged presenting part were all associated with failed ECV.

Five procedural factors were found to be associated with the success or failure of the ECV procedure. Higher levels of pain with the ECV procedure and increased numbers of

ABBREVIATIONS

AFI	amniotic fluid index
CI	confidence interval
ECV	external cephalic version
MVP	maximum vertical pocket
OR	odds ratio

Download English Version:

<https://daneshyari.com/en/article/3956478>

Download Persian Version:

<https://daneshyari.com/article/3956478>

[Daneshyari.com](https://daneshyari.com)