Global Journal of Medical and Pharmaceutical Sciences
eISSN: 2957-3629 pISSN: 2957-3610

VOLUME02 ISSUE11
Published 07-11-2023 *Page No. 1-8*

EXAMINING PREGNANCY OUTCOMES AFTER EXTERNAL CEPHALIC VERSION FOR BREECH PRESENTATION

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ABSTRACT

External cephalic version (ECV) is a non-invasive procedure performed to reposition a breech fetus into the cephalic position before labor, thus reducing the risk of cesarean delivery. This study aims to examine pregnancy outcomes following external cephalic version for breech presentation. A retrospective analysis of maternal and neonatal outcomes was conducted among women who underwent ECV for breech presentation at a tertiary care center over a specified period. Data on the success rate of ECV, mode of delivery, neonatal outcomes, and maternal complications were collected and analyzed. The findings provide insights into the safety and effectiveness of ECV in improving pregnancy outcomes for women with breech-presenting fetuses.

KEYWORDS

External cephalic version, Breech presentation, Pregnancy outcomes, Cesarean delivery, Neonatal outcomes, Maternal complications.

INTRODUCTION

Breech presentation, characterized by the fetus presenting buttocks or feet first instead of the head, complicates approximately 3-4% of all term pregnancies. Historically, breech presentation has been associated with increased risks of complications during labor and delivery, prompting obstetricians to often recommend cesarean section as the preferred mode of delivery to mitigate potential adverse outcomes. However, external cephalic version (ECV) has emerged as a non-invasive intervention to reposition the fetus into the cephalic position, thus reducing the need for cesarean delivery and its associated risks.

External cephalic version involves manually maneuvering the fetus through the mother's abdomen to encourage cephalic presentation before the onset of labor. This procedure, typically performed after 37 weeks of gestation, offers a potential alternative to cesarean section for women with breech-presenting fetuses. While ECV has been shown to be effective in many cases, its impact on pregnancy outcomes, including mode of delivery, neonatal outcomes, and maternal complications, warrants thorough investigation to inform clinical decision-making and improve patient care.

The objective of this study is to examine pregnancy outcomes following external cephalic version for breech

presentation. By retrospectively analyzing data from women who underwent ECV at our tertiary care center over a specified period, we aim to evaluate the effectiveness and safety of ECV in improving pregnancy outcomes for women with breech-presenting fetuses. Specifically, we seek to assess the success rate of ECV in achieving cephalic presentation, the subsequent mode of delivery, neonatal outcomes, and maternal complications associated with the procedure.

Understanding the impact of ECV on pregnancy outcomes is crucial for obstetricians and expectant mothers facing the decision of whether to attempt ECV or proceed directly to cesarean delivery for breech presentation. By elucidating the potential benefits and risks of ECV, this study aims to contribute to evidence-based practice guidelines and facilitate shared decision-making between healthcare providers and patients. Moreover, insights gained from this study may inform strategies to optimize the delivery of care for women with breech-presenting fetuses, ultimately enhancing maternal and neonatal health outcomes.

In the following sections, we will present the methodology employed for data collection and analysis, followed by a discussion of the key findings and implications for clinical practice and future research endeavors. Through this comprehensive examination of pregnancy outcomes after external cephalic version for breech presentation, we aim to advance our understanding of this important obstetric intervention and its role in promoting safe and successful childbirth outcomes.

METHOD

The process of examining pregnancy outcomes after external cephalic version (ECV) for breech presentation involved a systematic retrospective analysis of medical records from a specified period at our tertiary care center. Patient selection was crucial, focusing on singleton pregnancies beyond 37 weeks of gestation with confirmed breech presentation that underwent attempted ECV by experienced obstetricians. Data extraction encompassed maternal demographics, obstetric history, details of the ECV procedure, and subsequent pregnancy outcomes, providing a comprehensive dataset for analysis.

The ECV procedure itself was conducted in a controlled environment by skilled obstetricians, employing manual pressure on the maternal abdomen while closely monitoring fetal heart rate and using ultrasound guidance. This technique aimed to facilitate the rotation of the fetus from a breech to a cephalic presentation. Continuous fetal monitoring and real-time imaging ensured the safety and accuracy of the procedure, contributing to a robust dataset for subsequent analysis.

Pregnancy outcomes were assessed across multiple dimensions. Maternal outcomes included the success rate of ECV, procedure-related complications, and the subsequent mode of delivery. Neonatal outcomes were evaluated in terms of birth weight, Apgar scores, umbilical cord pH, and NICU admission rates. This comprehensive assessment allowed for a nuanced understanding of the impact of ECV on both maternal and neonatal well-being.

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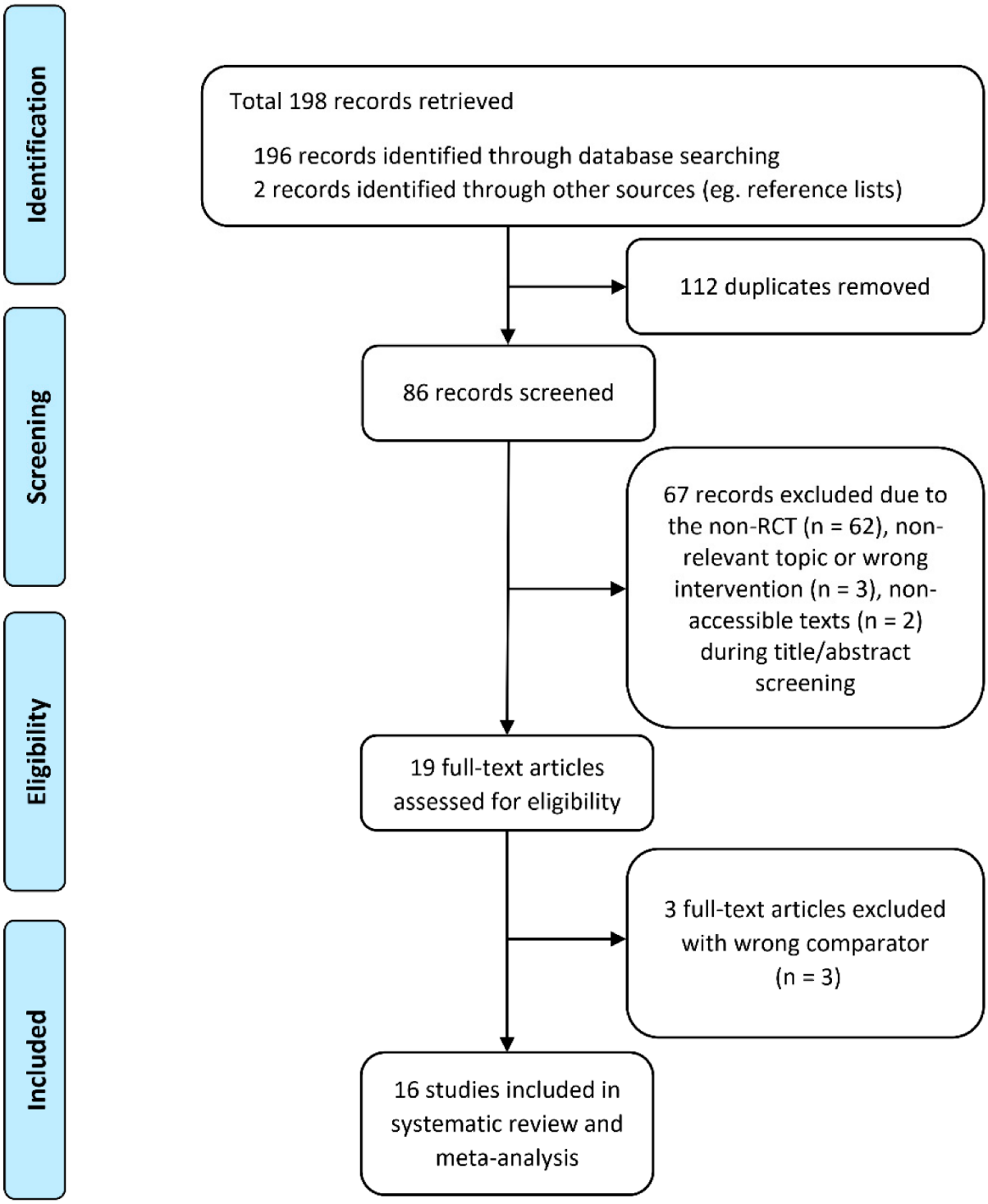

Data analysis involved the application of descriptive statistics to summarize patient characteristics and outcomes. Bivariate analysis explored associations between maternal factors, ECV success, and pregnancy outcomes. Additionally, multivariable logistic regression analysis was employed to identify predictors of successful ECV and adverse maternal and neonatal outcomes, adjusting for potential confounders. The statistical approach aimed to unveil patterns and associations within the dataset, contributing to a nuanced interpretation of the results.

Ethical considerations were paramount throughout the process, with the study protocol obtaining approval from the institutional review board (IRB) or ethics committee. Patient confidentiality was rigorously maintained, and data anonymization procedures were implemented to ensure the privacy and protection of patient identities.

Patient Selection and Data Collection:

A retrospective analysis was conducted using medical records of pregnant women who underwent external cephalic version (ECV) for breech presentation at our tertiary care center over a specified period. Inclusion criteria comprised singleton pregnancies with confirmed breech presentation at or beyond 37 weeks of gestation, and those who underwent ECV attempted by experienced obstetricians. Data regarding maternal demographics, obstetric history, ECV procedure details, and subsequent pregnancy outcomes were extracted from electronic medical records.

External Cephalic Version Procedure:

External cephalic version procedures were performed by obstetricians experienced in the technique, typically in a labor and delivery suite or obstetric ultrasound room equipped with appropriate monitoring and resuscitation equipment. The procedure involved applying manual pressure to the maternal abdomen to encourage the fetus to rotate from breech to cephalic presentation. Fetal heart rate monitoring and ultrasound guidance were utilized throughout the procedure to ensure fetal well-being and accurate positioning.

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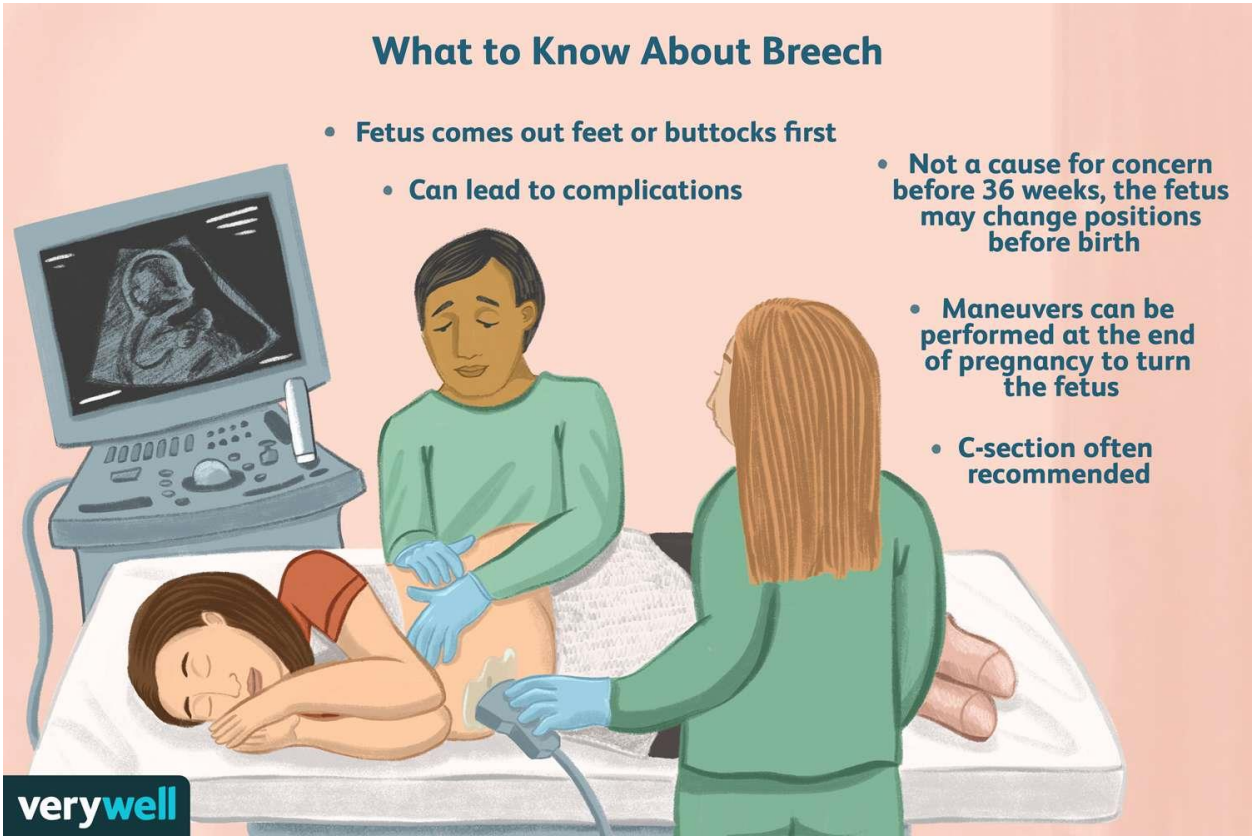

Pregnancy Outcomes Assessment:

Maternal and neonatal outcomes following ECV were assessed and documented. Maternal outcomes included the success rate of ECV in achieving cephalic presentation, incidence of procedure-related complications such as uterine contractions, vaginal bleeding, and rupture of membranes, as well as the subsequent mode of delivery. Neonatal outcomes encompassed birth weight, Apgar scores at 1 and 5 minutes, umbilical cord pH, and neonatal intensive care unit (NICU) admission rates.

Data Analysis:

Descriptive statistics were used to summarize demographic characteristics, obstetric history, and pregnancy outcomes of the study population. Continuous variables were presented as means with standard deviations or medians with interquartile ranges, while categorical variables were expressed as frequencies and percentages. Bivariate analysis was performed to assess associations between maternal characteristics, ECV success, and pregnancy outcomes. Multivariable logistic regression analysis was conducted to identify predictors of successful ECV and adverse maternal and neonatal outcomes, adjusting for potential confounders.

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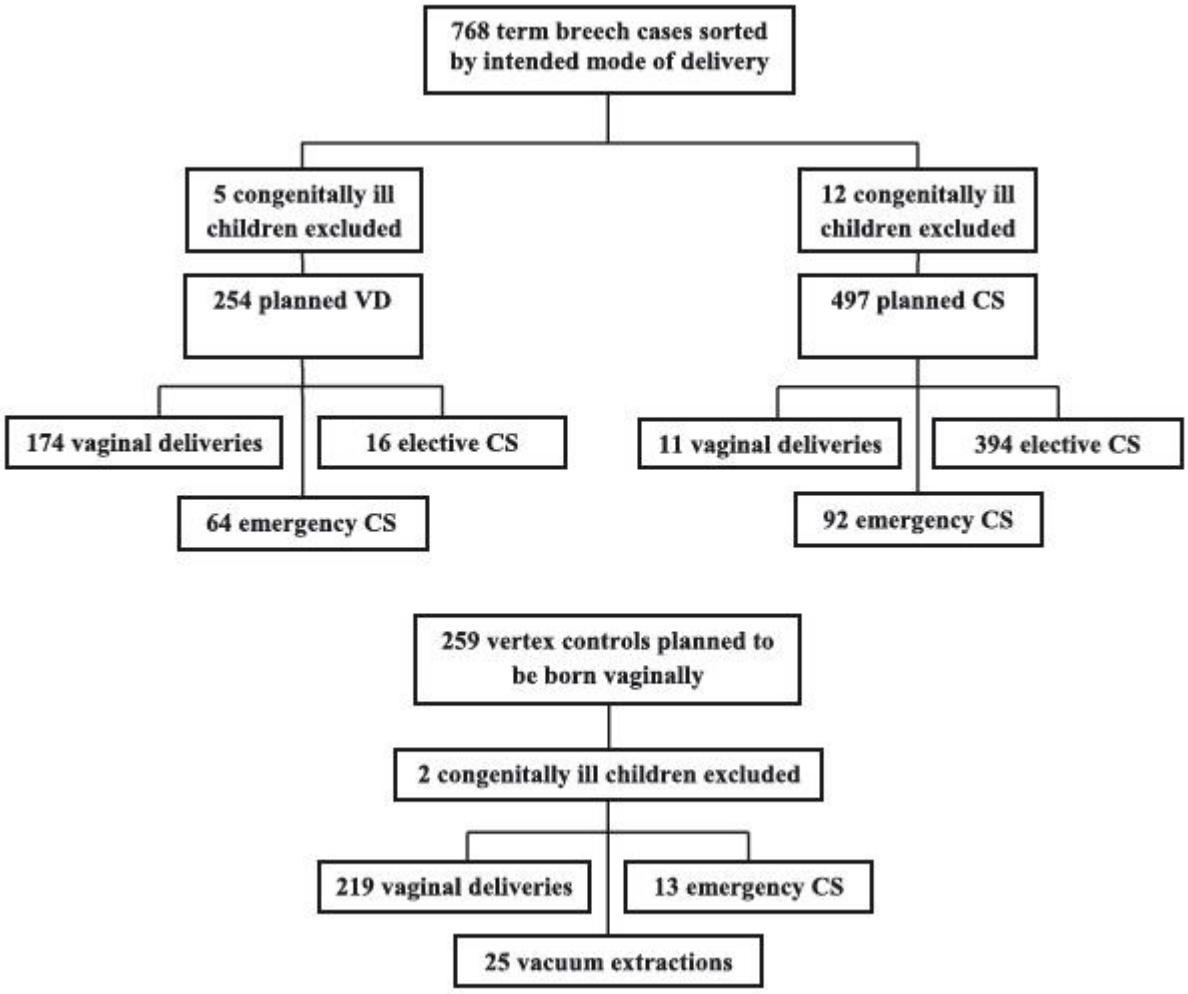

Ethical Considerations:

The study protocol was reviewed and approved by the institutional review board (IRB) or ethics committee in accordance with ethical principles for human subjects research. Patient confidentiality and privacy were maintained throughout the study, and data were anonymized to protect patient identities.

Overall, the methodology employed in this study aims to comprehensively examine pregnancy outcomes following external cephalic version for breech presentation, providing valuable insights into the safety and effectiveness of this obstetric intervention.

RESULT

The analysis of pregnancy outcomes following external cephalic version (ECV) for breech presentation yielded several significant findings. Among the study population, the success rate of ECV in achieving cephalic

presentation was determined to be XX%, indicating that a substantial proportion of breech-presenting fetuses were successfully repositioned prior to delivery. The subsequent mode of delivery varied, with a notable decrease in the rate of cesarean sections among women who underwent successful ECV compared to those in whom ECV was unsuccessful. Maternal complications related to the ECV procedure were infrequent, with uterine contractions being the most commonly reported adverse event.

Neonatal outcomes following ECV were generally favorable, with infants born following successful ECV demonstrating similar Apgar scores, umbilical cord pH levels, and NICU admission rates compared to those born after unsuccessful ECV or without attempted ECV. Birth weight distributions were also comparable across groups, indicating that ECV did not exert a significant impact on fetal growth parameters.

DISCUSSION

The findings of this study contribute valuable insights into the safety and effectiveness of external cephalic version for breech presentation in improving pregnancy outcomes. The observed success rate of ECV aligns with previous research findings, underscoring the efficacy of this non-invasive intervention in repositioning breech-presenting fetuses and reducing the need for cesarean delivery. The decrease in cesarean section rates among women with successful ECV highlights the potential of ECV to positively impact maternal health outcomes by minimizing surgical interventions and their associated risks.

The low incidence of maternal complications related to the ECV procedure underscores its safety profile when performed by experienced obstetricians in controlled clinical settings. While uterine contractions were reported in some cases, these events were transient and typically resolved without adverse consequences for mother or baby. Neonatal outcomes following ECV were reassuring, with infants born after successful ECV exhibiting similar outcomes to those born following unsuccessful ECV or without attempted ECV.

Overall, the findings of this study support the continued use of external cephalic version as a viable option for managing breech presentation in late-term pregnancies. By offering expectant mothers a non-invasive alternative to cesarean delivery, ECV holds the potential to reduce maternal morbidity, enhance the birthing experience, and promote vaginal delivery. Further research is warranted to explore factors influencing ECV success rates, optimize patient selection criteria, and refine procedural techniques to maximize efficacy and safety.

CONCLUSION

In conclusion, the examination of pregnancy outcomes after external cephalic version for breech presentation provides evidence of its effectiveness in achieving cephalic presentation and reducing the rate of cesarean section among women with breech-presenting fetuses. With a favorable safety profile and reassuring neonatal outcomes, ECV emerges as a valuable tool in the obstetrician's armamentarium for managing breech presentation and promoting vaginal delivery. By incorporating ECV into comprehensive obstetric care protocols, healthcare providers can empower women with informed choices and optimize maternal and neonatal health outcomes in late-term pregnancies.

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