The importance of external version in breech presentation on frequency of caesarean section

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UNIVERSITY OF ZAGREB
SCHOOL OF MEDICINE

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The importance of external version in breech presentation on frequency of caesarean section

Graduate thesis

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Summary

The importance of external version in breech presentation on frequency of caesarean section

Eva Drevenšek

External cephalic version is a procedure in which fetus is manually turned into a cephalic presentation. Its importance lies in the fact that there is a high rate of caesareans section in breech presentation and this technique is used to achieve a cephalic position in which chances for a vaginal birth increase and the risk of caesarean section can be reduced. It is useful in breech and other non-cephalic presentations. It can be done at term or before term. Although recommended, its use it still not implemented widely, as some women are not offered a try and some refuse it. The success rate of external version varies greatly between different studies, it is estimated to be 58% and it depends on many factors such as parity and position of placenta and many others. The use of tocolysis and neuraxial anesthesia also increases the success rates, especially when used in conjunction. Successful external version does decrease the rate of caesarean births, but women presenting with non-cephalic presentations still have higher risk of caesarean section even after a successful external version then women presenting with spontaneous cephalic presentations. At the Department for Obstetrics and Gynecology at University Hospital Center Zagreb, in the period between 2016 and 2018, external version was successful in 56.6 percent of trials and 90 percent of women with successful version gave birth vaginally, which illustrated that with implementation of external cephalic version the rate of caesarean sections could be decreased. Contraindications of external version are arguable, with different sources stating varying states and diagnoses as contraindications. Some examples are fetal distress and uterine bleeding. External cephalic version is a safe procedure with low complication rates, but it does have some risks and rare serious complications. Studies showed that external version is cost-effective.

Key words: external cephalic version, caesarean section, breech presentation

Sažetak

Značenje zahvata vanjskog okreta fetusa u stavu zatkom na učestalost carskog reza

Eva Drevenšek

Vanjski okret postupak je u kojem se fetus manualno iz stava zatkom prevodi u stav glavom. Njegova je važnost u činjenici da postoji velika stopa carskog reza pri prezentaciji zatkom te da spomenuti zahvat, kada je uspješno obavljen, povećava šanse za vaginalni porođaj te smanjuje rizik od carskog reza. Zahvat je koristan pri stavu zatkom, ali i ostalim stavovima koji ne uključuju glavu. Može se učiniti prije termina i u terminu. Iako se zahvat preporučuje, njegova se upotreba još uvijek ne primjenjuje učestalo, nekim se ženama ne nudi pokušaj, a neke odbijaju. Stopa uspješnosti vanjskog okreta uvelike varira između različitih studija, procjenjuje se da iznosi 58% i ovisi o mnogim čimbenicima kao što su paritet i položaj posteljice te mnogi drugi. Korištenje tokolize i neuraksijalne anestezije također povećava stopu uspješnosti, posebno kada se koriste zajedno. Uspješan vanjski okret smanjuje stopu carskih rezova, no žene s fetusima u stavu drugačijem od glave fetusa i dalje imaju veći rizik od carskog reza čak i nakon uspješno izvedenog vanjskog okreta u odnosu na žene s fetusima u stavu glavom. U Klinici za ženske bolesti i porode KBC-a Zagreb, u razdoblju između 2016. i 2018. godine, vanjski okret bio je uspješan u 56,6 % sudionica, a 90 % žena s uspješnim vanjskim okrtom rodilo je vaginalno. Takav podatak govori u prilog smanjenju carskog reza primjenom vanjskog okreta. Kontraindikacije za vanjski okret sporne su, a različiti izvori navode različita stanja i dijagnoze kao kontraindikacije. Neki su primjeri fetalni distres i krvarenje iz maternice. Vanjski okret siguran je postupak s niskom stopom komplikacija, ali ima određene rizike i rijetke ozbiljne komplikacije. Studije govore u prilog isplativosti vanjskog okreta.

Ključne riječi: vanjski okret, carski rez, stav zatkom

Introduction

External cephalic version is a technique in which the fetus is manually manipulated by applying pressure through the maternal abdomen, turning into either forward or backward roll into a cephalic (head-down or vertex) position. External cephalic version (ECV) from 36 weeks may increase percentage of cephalic presentations, that used to be in breech presentation, lowering the risk of breech presentation at birth and proportion of caesarean sections and increasing the chances for vaginal delivery. When ECV is attempted there is statistically and clinically meaningful decrease in non-cephalic birth, studies show (1, 2). It is usually done as an elective procedure in non-laboring patients (3).

About 3-4% of term pregnancies present with breech presentation (4). Breech presentation is caused by either fetal or maternal underlying pathology or it is a completely random occurrence or it might be due to a benign variant – like corneal placental position, in which a healthy mother and baby have higher risk for complicated vaginal delivery or caesarean section (1). Breech presentations are linked to a higher risk of a caesarean birth so external cephalic version is gaining popularity in clinical practice, since ECV provides a mean for minimizing caesarean births (2,5).

Between studies, the absolute numbers of caesarean section versus breech (or non-cephalic births) varies greatly. This is more likely due to variations in study populations and regulations for caesareans sections. With some exceptions, the direction of effects is consistent in all studies (1).

Benefits of a successful external cephalic version are clear: it reduces the likelihood of a breech presentation, there is a higher chance of achieving an uncomplicated vaginal birth, and it decreases rates of caesarean sections – in comparison to women who had not tried ECV. Women who have had a successful EVC also had shorter hospital stays, lower hospital bills, lower chance of endometritis and sepsis, opposed to women with persistent non-cephalic presentations (2, 6).

External cephalic version can be done either before or at (or near) term. The procedures done at these different stages of pregnancy differ in many ways and they are considered as separate.

One of the distinction between the two is that when ECV is performed at or near term the fetus is more mature, so if any complications arise the baby can be delivered through emergent caesarean section. Also, if spontaneous version is to occur, it is most likely to happen before week 37 and spontaneous reversion after successful ECV is less prevalent at term (2, 7). That is why preferred candidate for an ECV are women who are at least 37 weeks pregnant. ECV before term does have higher initial success rates though, but the reversion rates are higher as well, which leads to additional procedures (8). A study done in 2005 by Rust et al showed no difference in success rate or mode of delivery for late ECV versus early ECV (9). But newer studies have shown that earlier ECV (done at 34-35 weeks) had a higher success rate – decreased number of non-cephalic presentations – than early term ECV (done at 37-38 weeks) and lower failure at cephalic vaginal delivery, but an increased risk of preterm labor (10), so the potential benefits and risks have to be weighed carefully.

Although external cephalic version is recommended in international guidelines and by associations of obstetricians (like American and Royal College of Obstetricians and Gynecologists), some physicians and patients refrain from its use. Maternal refusal of an ECV attempt has been reported at rates from 18 to 76 percent. On the other hand, between 4 and 33 percent of women who are theoretically eligible for ECV are not offered a try (11). Patients who agree to a trial of ECV are usually well-informed, encouraged to opt for ECV, trust in the safety of the procedure and wish for vaginal delivery. Women who are afraid of the procedure, who are not informed, and those who desire planned caesarean birth refuse the procedure (3).

If an attempt of external cephalic version fails and there is persisting breech presentation, health care provider (OB-GYN) should decide the mode of delivery based on his knowledge and experience, it can either be caesarean section or vaginal breech delivery (2).

Standard procedure of external cephalic version

If a patient presents with breech presentation at the week 36, external cephalic version should be considered and scheduled after 37 weeks. ECV should only be performed, if caesarean section is easily accessible. When the patient comes in for the procedure, the malpresentation should be assessed first with ultrasonography, and any indications for caesarean delivery should be ruled out and contraindication should be reviewed. The patient has to be informed of the possible complications of the procedure and consent should be given for ECV and possible use of anesthesia and tocolysis. Biophysical profile or non-stress test should be to done to evaluate fetal well-being and contraction pattern before and after the procedure.

After parenteral beta agonists and tocolytics are administered, the procedure can be attempted There are different techniques of ECV, either forward roll or a backward flip as seen in Figure 1. It is done by either one or two health care professionals. In the forward roll pressure is applied on the fetal head while lifting the fetal buttocks. Forward roll is always attempted first. Intermittent use of ultrasonography during the ECV enables monitoring of the fetal heart rate and fetal position. If there is persistent fetal bradycardia or if the patient is uncomfortable, or there is no progress, the procedure should be discontinued. After completion of ECV fetal evaluation should be done and the patient has to be monitored as well for at least thirty minutes. If ECV was not successful or spontaneous reversion occurs retrial of the procedure can be considered. There is insufficient data that would recommend the immediate induction of labor in order to reduce spontaneous reversion. ECV is also rarely linked to complications that would necessitate prompt delivery (2, 12).

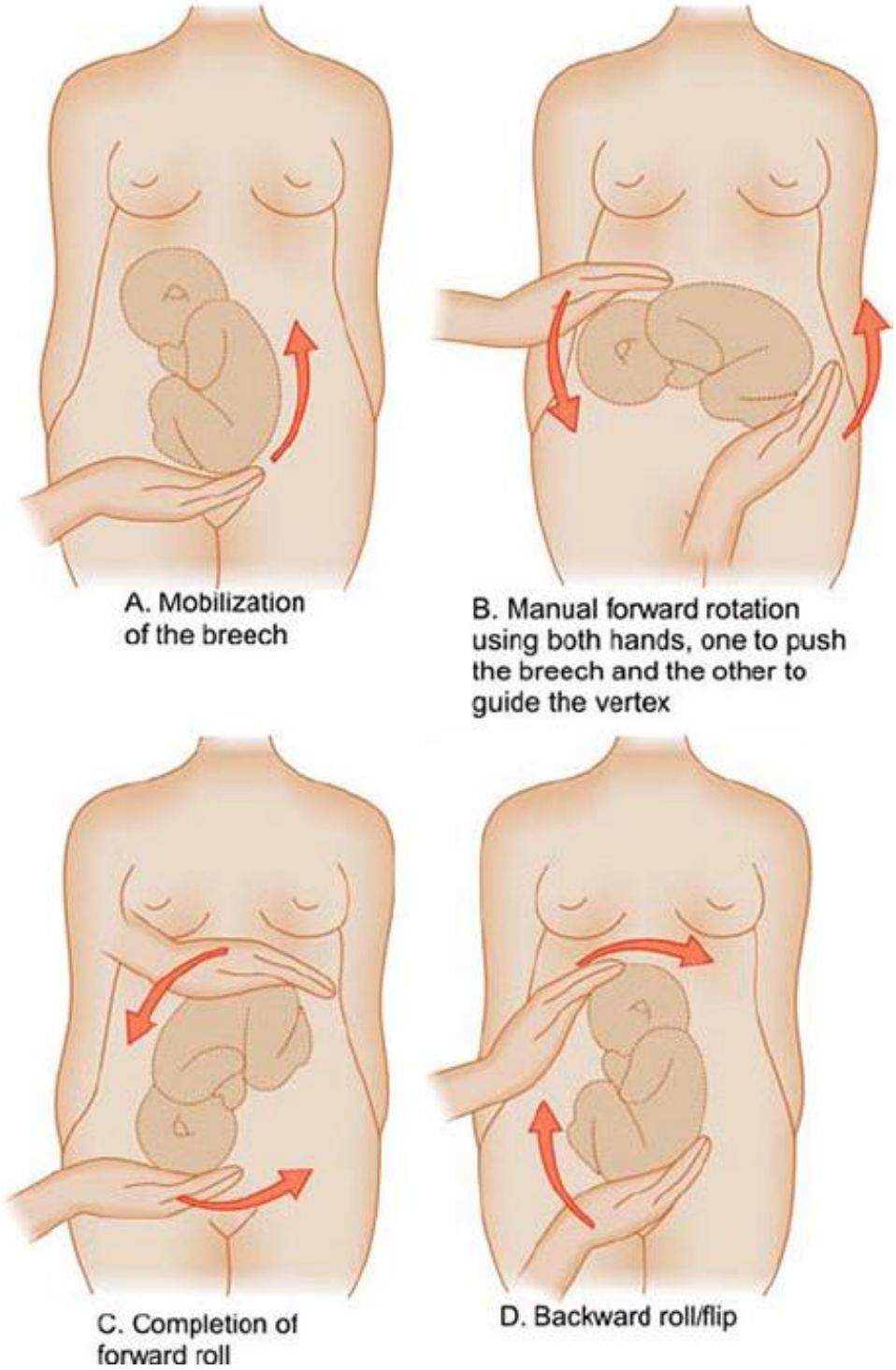

Figure 1: Illustration of external cephalic version, forward roll and backward flip

According to: Malhotra (2007) (13)

Predictions of success and success rate of external cephalic version

The success rate of external cephalic version varies greatly among different studies, from 16 to 100 percent. Meta-analysis (14) showed a pooled success rate of 58%. It was reported that the success rate of ECV was 64% in multiparas and 40% in nulliparous women. The same study found that 97% of cephalic presentations persisted until birth and out of those, 86% resulted in vaginal birth. Spontaneous version was reported after 2.2% of successful versions and in 4.3% of failed ECVs. (15) There have been few cases of effective ECV performed during early labor, showing up to 65% success rate (6).

The rate of caesarean section in hospitals is inversely proportional to the rate of successful ECVs. Women who gave birth in hospitals with a total caesarean section rates of more than 35% had a one-third lower chance of having a successful ECV, compared to women birthing in hospitals with CS rates of less than 20 % (6).

Studies have shown mixed findings about these factors and their correlation to ECV success rate: tense uterus on palpation, difficulties palpating the fetal head and maternal weight (obesity or BMI); these factors are not accurate enough to be valuable in clinical use. The use of amniotic fluid levels (or amniotic fluid index) to predict the success is also arguable, with different studies establishing different findings, but most agree that normal amniotic fluid level (AFI above 10) is associated with increase in success rate. Some clinical symptoms are more associated with failure of the procedure, these are: nulliparity, advanced dilatation, anterior placenta, low fetal station (engagement of presenting part) and fetal weight bellow 2500 grams. (2) On the other hand, studies have found a link between higher success rates and multiparity, increased estimated fetal weight until 3000 grams (16), transverse and oblique presentations, complete and non-frank breech and posterior and lateral placenta (2, 11, 16-19).

Scoring system for prediction of success or failure of ECV procedure were established, but their usefulness is not clear. They could be useful in counseling of women considering the procedure. A prediction model done by Kok et all (16) made a clear distinction between a group with a good prognosis with more than 60 percent chance of success, and a group with poor prognosis with less than 20 percent chance of success, but its clinical use was not validated. The usefulness of different prediction models poses a question, if ECV should be withheld from women who have a low probability of success. Given the procedure's low complication

rate, it may be worthwhile to give it a try, even though it may fail. Yet, when success rates are poor, complications have a larger impact, so that has to be taken into account as well (16).

Use of tocolysis and its effect on the success rate

Tocolytic agents inhibit contraction of the smooth muscle cells of myometrium and are uterine relaxants. They are used to delay the delivery in case of preterm uterine activity and also in external cephalic version. Several pharmacological agents have been shown to have tocolytic effect, some of these are: β2 adrenergic receptor agonists, calcium channel blockers, NSAIDs, magnesium sulfate and oxytocin antagonists (20). The use of tocolysis in external cephalic version was found to improve the success rates of the procedure, since the uterus relaxes and the amount of force required is reduced, allowing for simpler fetus repositioning. Discomfort of the patient can also be a limiting factor in procedure's effectiveness. Use of tocolysis in ECV also reduces number of complications. Tocolytics have been also demonstrated to increase the success rate in retrial after failed ECV attempt (21, 22).

Use of parenteral beta agonist tocolytics results in higher cephalic presentation at delivery, reduction in caesarean sections and decreased rate of failure in cephalic vaginal births. Terbutaline, which is a β2 adrenergic receptor agonist was shown to nearly double the success rate of ECV (23). Most studies indicate the routine use of tocolytics. There is not enough data available to investigate the side effects of beta adrenergic agonists when used in the setting of ECV (2).

A study from 2008 (Mohamed Ismail et al) showed an insignificant difference in ECV success rate when terbutaline or nifedipine were used for tocolysis, albeit terbutaline had a somewhat (insignificantly) better success rate, which was reported in other studies as well - beta adrenergic receptor agonists have higher success rates in ECV than nitrates (24). Nifedipine is a calcium channel blocker that can be used as a tocolytic agent. Slightly greater nifedipine dosage may have been necessary for the same tocolytic effect. They stated that if there are any maternal contraindications to adrenergic agents, nifedipine can be considered as an alternative. Another study (16) found no therapeutic effect of nifedipine. There were also almost no differences between the level of adverse effects between the two tocolytic agents used, most commonly reported were palpitations and abdominal pain during fetal manipulation, but they were transient. The study also reported no significant differences between Doppler measurements before and after ECV, indicating that tocolysis had no effect on blood flow to the fetus (22).

Use of anesthesia and its effect on success rate

When attempting external cephalic version, significant force can be sometimes directed toward patient's abdomen, which results in significant discomfort and morbidity of both mother and fetus. It is well recognized that regional anesthesia (epidural or spinal) reduce maternal anxiety, increase muscle relaxation and provides safe and sufficient anesthesia for any other obstetric procedures, if needed (25).

Neuraxial analgesia (epidural and spinal anesthesia) used in conjunction with tocolytic therapy was analyzed in a meta-analysis and it was showed to increase the success rates of ECV, it is associated with more vertex presentations at the time of labor and reports higher success of vaginal birth after successful ECV (26).

There is insufficient evidence to evaluate the benefits of neuraxial anesthesia without use of tocolysis, although there are individual studies who have demonstrated much higher ECV success rate when epidural anesthetic is used. Use of anesthesia in ECV have been reported not only to increase overall success rate, but also higher chances of achieving vertex position on the first try. There is proof of higher success rate with the use of the combination of both neuraxial analgesia and tocolytics, as regard to tocolytics alone (2, 25).

Effect of successful external cephalic version on the rate of caesarean deliveries

Effectiveness of external version is measured by the (increased) proportion of cephalic presentations at birth which in turn lowers the rate of caesarean delivery (3). It has been proven that external cephalic version is linked to fewer caesarean sections overall (4). The same systematic review (4) showed that the risk for non-cephalic presentation at birth was decreased by around 60% and the risk for a caesarean birth was reduced by roughly 40%. If the ECV is not successful (if the fetus does not turn into a vertex presentation), the rate of caesarean delivery is higher than in women who have a successful ECV. Even after a successful ECV women still have approximately twice as high chance of caesarean delivery than women whit spontaneous cephalic presentation, the reason being labor dystocia and fetal heart rate abnormalities. The higher incidence of dystocia following successful external version has no obvious explanation, but it could be due to the fact that the factor that are associated with both breech presentation and successful ECV, such as unengaged presenting part and small maternal pelvis, are also risk factors for labor dystocia. Parity also influences risk of labor dystocia, as multiparas are more likely to give birth vaginally than nulliparous after a successful ECV (3).

Factors that reduce the overall disparities between women who had ECV and those who did not, like spontaneous conversion from breech to cephalic (or vice versa), the ability of OB-GYN to perform vaginal breech deliveries and the necessity for a caesarean section, regardless of a successful ECV seemingly lessen the overall benefit of ECV (2). The rates of caesarean section for cephalic-presenting fetuses are comparable, irrespective of the way fetus was rotated, either due to a successful ECV or spontaneous rotation in third trimester (3).

There is promising evidence that with attempting external cephalic version at or near term the risk of breech birth and caesarean section is decreased. The increasing trend toward routine caesarean section for persistent breech presentation maybe suggests that ECV has a bigger influence on caesarean section rates than the data is currently showing (1).

At the Department for Obstetrics and Gynecology, at University Hospital Center Zagreb, there were 429 breech presentations through a period of 3 years (2016 to 2017). 384 of all breech presentation resulted in caesarean delivery (89.5%). External cephalic version was attempted 53 times, so in approximately 12 % of all women presenting with breech. ECV was successful

in 30 cases, which translates to 56.6% of all ECV attempts. Out of those 30, 27 (90%) gave birth vaginally, accounting for 51 percent of ECV trails and approximately 7% of all breech presentations, which illustrates that even after a successful ECV, vaginal birth may not be possible, due to other indications for caesarean section, for example secondary uterine inertia or placental abruption. Still, women who had a successful ECV have a higher chance of vaginal birth than women who did not undergo ECV, because they either were not eligible or were not offered a trial. It was also observed that the rate of caesarean deliveries in the setting of breech presentation was lower in multiparas (82.2%) than in primiparas (93.5%), which is also consistent with previous studies, which show that women with previous vaginal birth have a higher chance of vaginal delivery than women giving birth for the first time. The mode of delivery in a previous pregnancy was also observed as a factor that influences the mode of delivery in this pregnancy with breech presentation, with women who delivered vaginally before having a higher chance of another vaginal delivery (27).

In 2017, there were 1262 breech presentations in Croatia (3.48% of all births) and caesarean section was the mode of delivery for 87% of all breech presentations. With before mentioned ECV success rate of 56.6% and the rate of vaginal deliveries after successful ECV being 90%, theoretically, by the implementation of external version, the rate of caesarean section in the setting of breech presentation in Croatia could be reduced by approximately 7%, which would mean about 88 caesarean sections less (0.25% of all caesarean sections) on a yearly basis.
This number could maybe be even higher, if more women were considered and offered a trial of external version (27).

Contraindications for external cephalic version

The data available on contraindications for external cephalic version is scarce, so it is hard to establish both absolute and relative contraindications of ECV. It is best that they are individualized to specific patient (2).

These are believed to be absolute contraindications for external cephalic version: multiple pregnancy, severe abnormalities, fetal distress, in-utero fetal death, ruptured membranes. If vaginal birth is not possible, regardless of the presentation of the fetus and it requires caesarean section nonetheless (for example placenta praevia) an ECV of course would not be performed. (1) It has been reported that ECV could be done even after premature rupture of membranes, but only in the setting of absence of labor, normal amniotic fluid index and visually closed cervix (28).

Relative contraindications for ECV are previous caesarean section, intra-uterine growth restriction and uterine bleeding (1). Previous caesarean section is a controversial contraindication, since it used to be regarded as such, and newer studies showed very mixed results: some showed higher rate of success in women with a previous caesarean section, some showed lower success rate and some showed no difference. Despite this, overall success rate in women with a previous caesarean birth ranged from 50 to 84% and there were no cases reported of uterine rupture during ECV among any of the studies mentioned (2, 29).

Placental abruption is a rare, but serious complication of external version. Given the seriousness of the complication and the elevated risk of recurrence in women who have had a previous placental abruption, it seems reasonable to withhold ECV in patients with a history of the diagnosis, in patients with increased risk of abruption (those with preeclampsia and HELLP syndrome) and in patients who are presenting with symptoms suspecting impending abruption, like uterine bleeding (30).

A systematic review of contraindications for ECV (30) found very inconsistent information throughout different guidelines and that there is no clear consensus on eligibility of patients for the procedure. Also, most of the contraindications stated in those guidelines (33 out of 39) were not supported by any evidence. The only contraindication they found was stated in all

guidelines was oligohydramnios, but it seems that low amniotic fluid index (below 10) is more a predicting factor of failure of ECV, rather than a contraindication, since it is not associated with any complications of ECV. The same goes for anterior placenta, since it is linked to lower success rate of ECV, but no complications have been reported in women with anterior placenta who have had ECV.

It seems that known contraindications are not only based on procedure's safety, but often also on the lower success rate of ECV when before mentioned symptoms or diagnoses are present. The outcome of external version is multifactorial, prediction models show us, and so the presence of one negative prognostic factor should not be a reason to withhold ECV from a patient who is otherwise eligible for the procedure and could benefit from it. Roughly 10-15 percent of eligible patients are not offered ECV, studies show, and this number could be potentially lowered if contraindications to ECV would be limited only to states that impact the safety of the procedure (30).

Complications and risks of external cephalic version

External cephalic version has relatively low complication rates (18, 21). But complications still do occur, most common of all is transient fetal heart rate abnormalities– abnormal cardiotocography (CTG) – bradycardia, tachycardia, nonreactive non-stress test (14). Changes in fetal heart rate are common, but usually stabilizes when the procedure is done (2). Some other complications of ECV are: fetal femur fracture (31), prolonged fetal tachycardia (32), persistent sinusoidal fetal heart rate pattern (33), fetal maternal hemorrhage (34), vaginal bleeding, fetal distress, placental abruption, umbilical cord prolapse, rupture of membrane (14).

Emergency caesarean section happens in a 0.35% of cases (14) and the rate of caesarean section is higher even after successful ECV than in spontaneous cephalic presentation (35), which is understandable, since women with persistent breech presentation are a high-risk group for caesarean section in the first place (19).

Most serious, but very rare complication is perinatal mortality and stillbirth. A study from 1991 (36) reported 2 cases of intrauterine death after external version was performed, but those cases do not have a clear correlation to ECV. One neonatal and two fetal deaths were reported in a study from 1985 (37), which were caused by abruption placentae and premature labor which happened not long after ECV procedure (2).

Numbers analyzed for complications and risks of ECV are too small to provide a clear evaluation, but data from observation studies is comforting. Meta-analysis (14) of external cephalic version related risks showed pooled complication rate of 6.1%, 0.24% for serious complications, pooled risk of 0.19% for fetal death, 0.18% for both placental abruption and umbilical cord prolapse, and 4.7% for transient abnormal CTG patterns, 0.34% for ECV-related vaginal bleeding and 0.22% for ECV related premature rupture of membranes. The prevalence of placental abruption in women who have had an ECV is three times greater than the rate in overall population, it is still an unusual complication, but it appears that the pressure and the manipulation through abdominal wall do have an impact on the placenta (14). The same meta-analysis also concluded that the complications of ECV are not correlated to the outcome of the procedure, meaning complications are not more common in successful or failed ECVs, but vaginal bleeding was less frequent in successful ECV trial and stillbirth was more common after a successful ECV.

Another interesting aspect of external version-related complications is what should be reported as a complication? For example, nuchal cord is widely reported as an ECV complication, yet according to published studies nuchal cord is not linked to poor perinatal outcomes, so it maybe should not be treated as a complication of ECV. Abnormal cardiotocography is another instance of complication, that might not be an actual risk, since cardiotocogram is a diagnostic tool with a very poor sensitivity and specificity, so perhaps only CTG changes that result in caesarean section should be regarded and reported as complications of external version (14).

Cost-effectiveness of external cephalic version

External cephalic version was found to be cost-effective (38, 39). The reason for that mostly lies in the hypothesis that external cephalic version decreases the rate of caesarean deliveries, since the latter propose a significant cost. Even if ECV attempt is unsuccessful and caesarean section has to be done nonetheless, the total rate of caesarean births is still lower, compared to when not trying ECV at all. The trial of ECV followed by a trial of labor or planned caesarean is also supposed to produce lower costs than either planned caesarean or trial of labor without an attempt of external version, if the rate of patients with breech presentation eligible for trial of labor is below 52% (39). Another research revealed that ECV has lower costs compared to planned caesarean section in the setting of breech presentation if the success rate of ECV was more than 32 percent (38).

Discussion

Breech presentation occurs in around 3 to 4 percent of term pregnancies. The greater majority of women with breech presentations will have a caesarean section. Caesarean section is an obstetric operation and as such is associated with risks of major surgery: severe blood loss, anemia as a consequence of greater blood loss, pain, longer recovery period, risk of infection. Breastfeeding and caring for the neonate is harder after a caesarean delivery. External cephalic version is a tool with which non-cephalic presentations can be decreased, which allows women the opportunity for a vaginal delivery and to avoid caesarean section and its disadvantages. Another benefit of external version that cannot be overlooked, is that with reducing the rate of caesarean section in the setting of breech pregnancies, avoiding repeat caesarean sections in the subsequent pregnancies is possible, which leads to less complications and lower overall caesarean section rate.

The effect of external version is not as substantial as it could be with greater implementation of the procedure. A major reason for that is the lack of general consensus on eligibility of patients for the procedure, as mentioned before. If contraindications of external version would be confined to states that affect the safety of women and the fetus, and not as well to states that predict the procedures success in combination with clear international guidelines of contraindications, more women could be considered for the trial of external version. As discussed in the text, external version is not offered to all eligible women, and a reason for that could also be either the preference of the obstetrician or the policies of the institution, due to beneficial financial incentive, it is more convenient to plan and control it then the unpredictable vaginal birth, and avoidance of malpractice lawsuits, which are common in obstetrics. Another reason why external version is not widely used is the refusal of the procedure by eligible women, and the cause of that is usually the fact that they are not informed well enough or they wish to have a caesarean section. Another factor that probably influences the frequency of external versions is that health care providers do not have enough knowledge and skill about the procedure and tend to avoid it. Obstetric community should be encouraged to learn and implement external version.

Conclusion

External cephalic version increases the number of cephalic presentations at birth, decreases the need for caesarean section and improves chances of uncomplicated cephalic vaginal birth. Since it poses small risk of complications and provides important benefit, the trial of external cephalic version should be considered in all eligible women presenting with breech, with caesarean section easily available if necessary.

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Biography

Eva Drevenšek was born in Ljubljana, Slovenia on 30th of August 1995. After finishing Prežihov Voranc elementary school, she attended Gimnazija Bežigrad high school, and following graduation enrolled into Medical faculty at University of Zagreb, Medical studies in English programme. As a student, she was a part of the student sport organization SportMef as a team leader and represented Medical faculty at championships and tournaments. She worked on a research study about the influence of caffeine at Medical faculty of Ljubljana.