

Use of External Abdominal Ice to Complete External Cephalic Version in Term Breech Pregnancy

Maj Paul F. Crawford, USAF, MC

A 36-year-old multiparous woman with fetus in the breech position applied ice to the fundus of the uterus and achieved successful cephalic version. No other reports of using ice to induce cephalic version are found with MEDLINE search; however, it has been used as a folk remedy. Further research to evaluate the efficacy and safety of ice is needed to determine whether it increases cephalic vaginal birth. (J Am Board Fam Pract 2005;18:312–3.)

Breech presentation is a common complication at term pregnancy. External cephalic version to avoid cesarean section is a procedure with small but real risk of placental abruption and other complications. This report describes a case detailing the folk method of applying ice to the uterine fundus to achieve version.

Case Report

The patient is a 36-year-old woman, gravida 4 para 3, whose only complicating factors during pregnancy were a history of herpes simplex virus infection and advanced maternal age. She underwent genetic counseling and level II ultrasound in the second trimester and was found to have no increased risk for trisomy 21. She was seen at the 36-week visit, and her physician determined that her fetus was in the breech position, confirmed by ultrasound.

The patient was interested in pursuing both traditional and nontraditional methods of inducing cephalic version. She was instructed to assume knee-to-chest position twice a day for twenty minutes and scheduled for external cephalic version at 37 weeks' gestation. Her physician also recommended that she apply ice to the fundus of her

uterus for 20 minutes daily to induce spontaneous version. She agreed to do this and applied ice to her abdomen that evening at home. Within 10 minutes of initiation, she felt dramatic fetal movement. She returned to the office the next day and was confirmed to be in vertex position by ultrasound. She successfully delivered a vertex female infant at 39 weeks' gestation.

Literature Review

A thorough review of traditional literature (MEDLINE search terms: ice, external cephalic version, breech fetus) and textbooks showed no studies investigating the efficacy of ice placed over the fundus to increase the rate of spontaneous versions or to increase the success rate of external cephalic versions. There are, however, many testimonials and years of anecdotal experience from physicians and midwives touting the efficacy of fundal ice. Internet reports (<http://www.storknet.com>, <http://www.agentlejourney.com>) claim that cold substances, from frozen bags of peas to ice, placed over the fundus of the uterus can cause spontaneous version of breech fetuses.

Discussion

At 32 weeks' gestation, approximately 16% of fetuses are in the breech position.¹ This rate decreases to 3 to 4% at term. Historical data show that after 36 weeks, the chance of spontaneous version is only 25%.² A wide range of success rates for external cephalic version are reported in the literature. Institutions routinely offering external

Submitted, revised, 1 March 2005.

From the Eglin Air Force Base Family Practice Residency Program, Eglin AFB, Florida.

Conflict of interest: none declared.

Corresponding author: Maj. Paul Crawford, USAF, MC, 307 Boatner Rd, Ste 114, Eglin AFB, FL 32542 (e-mail: paul.crawford2@eglin.af.mil).

cephalic version have success rates ranging from 35% to 76%.³⁻⁵ External cephalic version has been shown to decrease the number of noncephalic births as well as decrease the rate of cesarean delivery.³

Several nontraditional version methods have been previously evaluated. Moxibustion (burning of the herb Mugwort on acupuncture points) has been proven to increase rates of spontaneous versions in one clinical trial.⁶ The knee-to-chest position has also been proven to increase spontaneous version rates.⁷ Glyceryl trinitrate spray has minimal effect versus control group,⁸ and nitroglycerin has not proven to be successful^{9,10} in increasing likelihood of version. The use of epidurals and spinal anesthesia has not proven harmful but also has not been proven to statistically increase version success rates.¹¹⁻¹³ Transabdominal amnioinfusion, although increasing risk to the fetus, has little increase in overall version success rates.¹⁴ Other ineffective methods include playing classical music between the legs of the patient and shining a light onto the abdomen just above the pubis.⁷

The mechanisms of moxibustion, knee-to-chest position, or glyceryl trinitrate sprays are unknown. However, the relative uterine relaxation that any of these techniques could cause may play a part in increasing spontaneous version. Ice application to the fundus of the uterus does not relax the uterus, so the most likely cause of spontaneous version in these patients is direct stimulus to the fetus inciting spontaneous version.

Conclusion

This report is the first known publication to describe application of ice to the uterine fundus to successfully induce fetal version. Abdominal ice has the potential to augment and perhaps even substitute for external cephalic versions if pilot studies confirm its efficacy and safety. Reducing the small, but defined, risks of placental abruption from manual version is a worthy goal to pursue.

The opinions presented in this article represent those of the author and do not represent the opinions of the United States Air Force.

References

1. Hofmeyr GJ, Sadan O, Myer IG, Galal KC. External cephalic version and spontaneous version rates: ethnic and other determinants. *Br J Obstet Gynaecol* 1986;93:13-6.
2. Westgren M, Edvall H, Nordstrom L, Svalenius E. Spontaneous cephalic version of breech presentation in the last trimester. *Br J Obstet Gynaecol* 1985;92:19-22.
3. American College of Obstetricians and Gynecologists. External cephalic version. ACOG practice bulletin no 13. Washington DC: American College of Obstetricians and Gynecologists; 2000.
4. Hannah ME, Hannah WJ, Hewson SA, Hodnett ED. Planned caesarean section versus planned vaginal birth for breech presentation at term: a randomised multicentre trial. Term Breech Trial Collaborative Group. *Lancet* 2000;356:1375-83.
5. Hutton EK, Kaufman K, Hodnett E, Amankwah K. External cephalic version beginning at 34 weeks' gestation versus 37 weeks' gestation: A randomized multicenter trial. *Am J Obstet Gynecol* 2003;189:245-54.
6. Ewies A, Olah K. Moxibustion in breech version—a descriptive review. *Acupunct Med* 2002;20:26-9.
7. Hofmeyr GJ. Interventions to help external cephalic version for breech presentation at term. *Cochrane Database Syst Rev* 2004;(1):CD000184
8. Yanny H, Johanson R, Balwin KJ, Lucking L. Double-blind randomised controlled trial of glyceryl trinitrate spray for external cephalic version. *BJOG* 2000;107:562-4.
9. Belfort MA. Intravenous nitroglycerin as a tocolytic agent for intrapartum external cephalic version. *S Afr Med J* 1993;83:656.
10. Andarsio F, Feng TI. External cephalic version: nitroglycerin versus terbutaline. *Am J Obstet Gynecol* 2000;182:516.
11. Dugoff L, Stamm CA, Jones OW 3rd, Mohling SI, Hawkins JL. The effect of spinal anesthesia on the success rate of external cephalic version: a randomized trial. *Obstet Gynecol* 1999;93:345-9.
12. Carlan SJ, Dent JM, Huckaby T, Whittington EC. The effect of epidural anesthesia on safety and success of external cephalic version at term. *Anesth Analg* 1994;79:525-8.
13. Schorr SJ, Speights SE, Ross EL, et al. A randomized trial of epidural anesthesia to improve external cephalic version success. *Am J Obstet Gynecol* 1997;177:1133-7.
14. Benifla JL, Goffinet F, Bascou V, Darai E, Proust A, Madelenat P. Transabdominal amnio-infusion facilitates external version maneuver after initial failure. Six successful attempts. *J Gynecol Obstet Biol Reprod (Paris)* 1995;24:319-22.