Findings of the review: Fundal pressure is a widely used practice which involves the use of manual or instrumental pressure on maternal abdomen in the direction of the birth canal with the purpose of accelerating the second stage of labour. While it is used routinely in many settings, it is also considered obsolete in many countries and there is some concern about its effectiveness as well as its potential adverse consequences. The aim of this review was to determine the benefits and adverse effects (for both the mother and her baby) of fundal pressure in the second stage of labour. Only one trial, judged by the authors to be of good methodological quality, was included in this review. That trial involved 500 nulliparous women (who had received epidural analgesia) compared fundal pressure by insufflatable belt with no fundal pressure. No significant differences were found in the duration of the second stage of labour, mode of delivery, five-minute Apgar scores, neonatal arterial cord pH and admission to neonatal intensive care unit. In the intervention group there was an increase in intact perineum but also an increase in anal sphincter tears. The lack of blinding may have influenced these two opposite results, although a possible association with the intervention cannot be ruled out.

Implementation: There is no evidence to either support or discourge the use of manual fundal pressure during the second stage of labour. Further research is needed to evaluate the effectiveness and safety of manual pressure or use of an insufflatable belt for fundal pressure during the second stage of labour.

Citation: Verheijen EC, Raven JH, Hofmeyr GJ. Fundal pressure during the second stage of labour. Cochrane Database of Systematic Review 2009, Issue 4. Art. No.: CD006067. DOI: 10.1002/14651858.CD006067.pub2.

Abstract

Fundal pressure during the second stage of labour involves application of manual pressure to the uppermost part of the uterus directed towards the birth canal in an attempt to assist spontaneous vaginal delivery and avoid prolonged second stage or the need for operative delivery. Fundal pressure has also been applied using an inflfatable girdle. A survey in the United States found that 84% of the respondents used fundal pressure in their obstetric centres. There is little evidence to demonstrate that the use of fundal pressure is effective to improve maternal and/or neonatal outcomes. Several anecdotal reports suggest that fundal pressure is
associated with maternal and neonatal complications: for example, uterine rupture, neonatal fractures and brain damage. There is a need for objective evaluation of the effectiveness and safety of fundal pressure in the second stage of labour.

To determine the benefits and adverse effects of fundal pressure in the second stage of labour.

We searched the Cochrane Pregnancy and Childbirth Group's Trials Register (November 2008).

Randomised and quasi-randomised controlled trials of fundal pressure versus no fundal pressure in women in the second stage of labour with singleton cephalic presentation.

Three review authors independently assessed for inclusion all the potential studies. We extracted the data using a pre-designed form. We entered data into Review Manager software and checked for accuracy.

We excluded two of three identified trials from the analyses for methodological reasons. This left no studies on manual fundal pressure. We included one study (500 women) of fundal pressure by means of an inflatable belt versus no fundal pressure to reduce operative delivery rates. The methodological quality of the included study was good.

Use of the inflatable belt did not change the rate of operative deliveries (RR 0.94, 95% CI 0.80 to 1.11). Fetal outcomes in terms of five-minute Apgar scores below seven (RR 4.62, 95% CI 0.22 to 95.68), low arterial cord pH (RR 0.47, 95% CI 0.09 to 2.55) and admission to the neonatal unit (RR 1.48, 95% CI 0.49 to 4.45) were also not different between the groups. There was no severe neonatal or maternal mortality or morbidity. There was an increase in intact perineum (RR 1.73, 95% CI 1.07 to 2.77), as well as anal sphincter tears (RR 15.69, 95% CI 2.10 to 117.02) in the belt group. There were no data on long-term outcomes.

There is no evidence available to conclude on beneficial or harmful effects of manual fundal pressure. Good quality randomised controlled trials are needed to study the effect of manual fundal pressure. Fundal pressure by an insufflatable belt during the second stage of labour does not appear to increase the rate of spontaneous vaginal births in women with epidural analgesia. There is insufficient evidence regarding safety for the baby. The effects on the maternal perineum are inconclusive.

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