AIMS For a better birth...

Research Roundup

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More Comments on the Breech Trial

Five years ago a large international randomised trial was published, comparing planned caesarean with planned vaginal birth for breech babies[1]. It concluded that caesarean delivery was safer, and this has now almost become the standard breech birth in the UK, and in many other countries. However, many aspects of the research, and its conclusions were criticised, both by professionals and consumers, including AIMS. Now an obstetrician from Canada has added further criticism[2]

Dr. Kotaska says the trial did not appreciate the complex nature of vaginal breech delivery and it has breached the limits of evidence-based medicine. Most of the 121 centres where the trial was carried out were in North America. There the proportion of breech babies born vaginally was normally 13%. But in the trial the vaginal delivery rate was 57%. This was done by asking centres where the rate was under 40% to increase it, or leave the trial. The researchers needed to have high rates in order to get results which were able to detect small differences in outcome.

The trial report does not say what the original vaginal-delivery rate of breeches were at the centres which took part, but the author says many must have tripled their previous vaginal-delivery rate overnight. Several maternity units in different parts of the world where they were interested in doing vaginal breech births have reported their rates they achieved for delivering breech babies vaginally. They varied from 24% to an exceptional 53% at a maternity hospital in Norway - the only centre that got anywhere near the percentage achieved in the Hannah trial.

Randomised trials can only ethically be done if there is a state of "equipoise" - i.e. it is not known which of the alternatives being tried is safer, or more effective than the other. Kotaska says that the doctors were therefore protected from medico-legal liability because they were in the trial. The trial also encouraged them to increase their vaginal delivery rate beyond their comfort level (i.e. where they usually felt it was safe enough, and they felt skilled enough, to do it).

What is more, the rules of the trial allowed doctors to proceed if the cervix was dilating only half a centimetre an hour, and allowed up to 3.5 hours in the second stage. The author says that few obstetricians from centres with safe vaginal breeches would find this acceptable.

The author points out some complex tasks have a narrow margin for error, and the safe delivery of a vaginal breech needs skill - including selection of cases, and monitoring the baby. Studies of other medical procedures which doctors have to learn (like vaginal compared with abdominal hysterectomy) show the learning curve may take years. Expecting doctors to increase rapidly the rate of any procedure from 20% to 60% would not be a good way to measure its safety.

AIMS Comment

The author makes an important point, though he does not separate two risks - one, as he says, that experienced doctors might continue an attempted vaginal breech beyond what they would have considered safe before - but the second is that obstetricians inexperienced in breech birth would be doing them (especially late at night and at the weekend when there are fewer senior people around and, as we know, perinatal mortality goes up).

We do not have to remind our readers that in the last Maternal Deaths enquiry (see last issue of our Journal), six women died from the effects of a previous caesarean when having their next baby, and we shall continue to remind the Confidential Enquiry that exploring reasons for previous caesareans is relevant to such maternal deaths. Suppose the placenta praevia or scar rupture which killed any of these women had been caused by sections for breech which could have been safely born vaginally?

References

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- Kotaska, A. Inappropriate use of randomised trials to evaluate complex phenomena: case study of vaginal breech delivery. BMJ 2004, vol 329: pp 1039-1042

Breech Birth in Shrewsbury

The long term health and educational needs of breech babies are not affected by the mode of birth - whether caesarean or vaginal delivery. A team of obstetricians from Shrewsbury has reported on the unit's breech experience and followed up the babies. For the last 10 years around 32% of term breech babies have been born vaginally (Shrewsbury is in Shropshire, which has the lowest caesarean rate in England and Wales.)

Since 1995 the policy there has been to give women a scan to find out the type of breech, and to see if it was suitable for external cephalic version [turning the baby round by pressure on the mother's abdomen- see breech birth stories]. They say "in cases of failed or unattempted version, the decision on mode of delivery is made jointly by the mother and the specialist after careful counselling." When the mother goes into labour, the on-call consultant is informed. Using syntocinon to speed up the labour is avoided if possible, but any decision to use it must be made by the consultant. There is an experienced team in the delivery suite.

The team report on outcomes over ten years for over 1,400 term breech babies. Over 38% were born by planned section, just over 32% had a caesarean in labour, and 29% were born vaginally. In that time four babies died: 1 caesarean baby from congenital problems; and three vaginal babies (one of which died from birth trauma caused by the difficulty of the delivery, one from 'suboptimal care', and one from abruption of the placenta).

More of the vaginal babies had Apgar scores below 7 (5.9% compared with less than 1% in planned caesarean babies). They were also more likely to be admitted to neonatal care. The team have followed up the babies, now aged three- to ten-years old. And, despite their lower Apgar scores, vaginal babies were not more likely to develop long term problems (i.e. special health or educational needs). In fact, most of the children who turned out to have special needs had not had low Apgar scores, been admitted to the neonatal unit, or had convulsions at birth. One vaginal breech baby did, however, develop cerebral palsy. It had suffered lack of oxygen at birth and suffered convulsions.

The authors point out that the results of their study are more applicable to our population than the Hannah trial, which covered 126 centres, half of which had entered ten or fewer patients. They also suggest that their selective use of prostaglandins and syntocinon compared with the Hannah trial may contribute to the lack of damage to surviving babies. Other studies also have reported no difference in long term outcomes between the two groups.

AIMS Comment

We applaud their restricted and careful use of oxytocin and prostaglandins. So often "put up a drip" is the automatic reaction of junior (and sometimes senior) obstetricians, and it sets women on the path to disaster. We do wonder, however, if they were used in the fatal case of placental abruption. We wrote to the authors of the Hannah trial with questions about augmentation of labour, and possible connection with birth injury and death, and received no reply.

The follow-up rate of children in the study was high - over 94% - which gives confidence in their results. However, a word of caution. Being recorded as having special needs does not cover all the children who may really have them. We don't know what things are like in Shrewsbury, but parents tell us of battles all over the country on these assessments. Also the sample includes children of three, who have not yet entered formal education.

To do a full assessment would mean a detailed physical, neurological and psychological assessment of each child, which would be expensive. Still, this is a useful study and it is good to know there is one centre in the UK where experience in breech is kept alive, and that all the obstetricians have not been completely "Hannahed". We'd still like to see a study comparing obstetric and midwifery managed breech births. As more midwives acquire experience, maybe that will happen.

Reference

- Pradhan P, Mohajer M, Deshpande S Outcome of term breech births: 10-year experience at a district general hospital. BJOG 2005, vol 112: pp 218-222

Misoprostol - an unlicensed drug

In the March issue of the BJOG (British Journal of Obstetrics and Gynaecology), there are two commentaries on Misoprostol, the prostaglandin drug which is inserted into the vagina to cause abortion or induce labour.

It has certain advantages. Whereas an oxytocic drug (used in a drip), which was widely used before, causes the uterus to contract, it does not soften and dilate the cervix, which may not be "ripe" when the baby needs to come out. Misoprostol (like other prostaglandins) softens the cervix, and very effectively. Secondly it is cheap. Thirdly it does not need to be stored in a refrigerator.

One of its chief disadvantages is that, like syntocinon, it can cause intense, frequent and abnormal contractions of the uterus which can cut off the supply of blood (and therefore oxygen) to the baby, without the usual time to recover in between. If a woman has a previous caesarean scar, oxytocic drugs can increase the risk of rupture. Secondly, like syntocinon, the effect of a similar dose on any particular woman varies and cannot be predicted, and the effect cannot be switched off. Thirdly it is not licensed for this purpose.

The first piece is by Dr. Marsden Wagner, who formerly worked for the World Health Organization, and who has been a long-term critic of excessive use of birth technology.[1]

Drugs are licensed to treat specific conditions, but doctors sometimes use them for other reasons - 'off label' - as long as they take responsibility. Misoprostol does have a licence - for treatment of gastric ulcers under the brand name Cytotec - but not for induction of labour. When obstetricians first used it, they did not know what dose to use, so they had to experiment. And there was another problem: it comes in the form of tablets to be swallowed, not vaginal pessaries - and they were inserting it in women's vaginas. Absorbing the drug through the vagina and cervix has a different effect from taking it by mouth. It is absorbed more slowly, has lower concentration in the body, but the overall drug exposure is increased. The concentration in plasma remains near peak levels 4 hours later.

It comes in 100- and 200- microgram tablets, but it was found that 100-microgram dose overstimulated the uterus and caused some cases of rupture, so they cut them into halves, and later into quarters. The dose is now a quarter tablet every four to six hours. Marsden says "some hospital pharmacies decline to cut unscored tablets due to the inherent inaccuracy of the dose."

No randomised trials have been done which were large enough to measure serious risks, like rupture of the uterus, amniotic fluid embolism (which kills mothers and may be caused by over-stimulation of contractions), or deaths of infants and mothers. However, a number of adverse reports have been published on such cases, as well as increases in meconium staining (the baby passing a motion before birth which can sometimes be a sign of fetal distress) and brain damage to infants. There are other prostaglandins (also unlicensed) but there are suggestions that Misoprostol carries greater risk of uterine rupture. When over 500 women who had tried to have a VBAC (vaginal birth after caesarean) were compared.

In the Misoprostol group 5.6% had a uterine rupture, compared with 0.2% of those who did not have it.

Patients given experimental drugs give consent, but, says Wagner, patients given off-label drugs are rarely told. Many have been told it is safe, and Sheila Kitzinger obtained a leaflet from Frimley Park Hospital saying "it is safe for you and your baby."

In 2000, Searle Pharmaceuticals, the manufacturers, wrote to all American doctors reminding them that using Misoprostol for labour induction was contra-indicted, and the RCOG have concluded not enough is known about it to use it, except in properly conducted trials with informed consent.

The second commentary comes from three doctors now in Liverpool and Austria, who had worked in Africa for three years without access to prostaglandins, and take a different view2. They point out that the FDA (the United States Food and Drug Administration) has recently licensed Misoprostol to be used for terminations, even though it is not licensed for use in pregnancy, and in the UK the RCOG also recommends it for abortions. However they point out that the RCOG/NICE guidelines, say "the safety issues around its use are unclear and that its use should be restricted to randomised clinical trials".

They say that Misoprostol has only slowly been brought into use for obstetrics because it has no licence, and the main reason for this is that Searle have not applied for one "despite the abundant literature on its safe and effective use". They say the reason for this is probably to avoid being involved in abortion discussions. This means denial of "a potentially life-saving treatment to millions of women around the world" especially in Africa, where three of the biggest causes of maternal mortality are haemorrhage, septic abortion and pre-eclampsia, which could be reduced by effective use of this cheap drug.

Fear of litigation stops obstetricians using unlicensed drugs. For a manufacturer to prove a drug is safe and effective enough to get a licence costs millions of dollars. The drug is cheap and the profit of sales would not be worth it to them.

In Africa, the only drugs approved to cause contractions are oxytocin and ergometrine. These are dangerous, less effective, and do not ripen the cervix. They need to be given into a vein or by injection, and both should be stored in a refrigerator. Women being induced for fetal death may therefore need caesareans. Because there is no guidance and advertising from the manufacturer on dosage, excessive doses have caused problems. They say the current licensing system is inadequate where the drug company does not apply for a licence, and their "refusal to apply for a licence raises serious ethical questions." Misoprostol has "huge potential ... and the low rate of side effects is insufficiently acknowledged." The good news is that the patent rights have run out in some countries, and copy drugs are already coming on the market. France is expected to approve a Misoprostol product soon.

AIMS comment: We have summarised these articles at length because Misoprostol appears so often in serious complaints in our postbag - including harrowing accounts of ruptured uterus, fetal death, as well as post-traumatic stress reactions from the pain and shock of a Misoprostol induced labour. (Misoprostol may be cheap enough for Africa, but there will not be the wide availability of epidurals, which is probably what has reduced the outcry by many British mothers - but not everyone gets them, they don't always work, and they may mask symptoms of uterine rupture). The latest Confidential Enquiry into Maternal Deaths reported a death of a mother with a previous caesarean scar who was induced with Misoprostol after her baby died in her womb.

We believe when a new drug or treatment is introduced, doctors should randomise the first patient, so

that from the beginning, data is collected and trial patients can be compared with controls. Trying it out on woman after woman so that it then sneaks into common practice by the back door is not on. It's all very well to say doctors use unlicensed drugs "at their own responsibility", but in this country it is very difficult to make them responsible when things go wrong.

A crucial issue here is consent. Our correspondents have felt betrayed by their health carers when they realise it is an unlicensed drug, and they were not told. And whereas drug manufacturers and obstetricians may fear litigation in the USA (we suspect this is a major reason for Searle not wanting a licence, especially in the US where damages are bigger), suing is more difficult here, and has become harder with the reduction in legal aid. It's about time a group of mothers who were not told, and therefore did not give informed consent, put in a complaint to the General Medical Council.

References

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