AIMS For a better birth...

Research Roundup

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Waterbirth - Looking For Bad News

Last year the BMJ published a paper on mortality and/or health problems in babies delivered in water. The British Paediatric Surveillance unit wrote to all consultant paediatricians asking about any deaths or admissions to Special Care in babies whose mothers had laboured or delivered in water in 1994-6. These figures were compared with statistics gathered on the total number of water deliveries and births.

There were 5 perinatal deaths in over 4000 water births - a rate of only 1.2 per 1000. One of the babies died in the womb before the mother got into the water, another was stillborn after an unattended birth with a concealed pregnancy. The three postnatal deaths had specific causes: a herpes infection, brain haemorrhage after a precipitate delivery, and hypoplastic lungs. 35 babies (including the three postnatal deaths) were admitted to special care and 15 of them had respiratory tract problems including one with water aspiration and another with "freshwater drowning". Five babies had a snapped umbilical cord.

There were six deaths in babies of mothers who left the water before delivery, which do not seem attributable to pool use.

Perinatal mortality rates are similar to those for other low risk deliveries, but because figures may not be complete, there could be either a slight increase or a slight decrease in risk. Anyway, the authors conclude that there is no evidence of substantial increase in risks. However, the five cases of snapped umbilical cord raises the possibility that bringing the baby immediately to the surface causes rapid traction on the cord over a longer distance than is usual.

AIMS Comment

Although it is useful to have evidence of no major increase in risk, I left the study with a deep feeling of unease. What medical changes in maternity care have been monitored almost entirely by publication of anecdotal reports of alleged adverse events and a survey of paediatricians asking for deaths and

disasters? Good news of benefits of waterbirth seems to come only from mothers and midwives. It seems that when suggestions come from consumer side to do more research, they are only interested in finding out about bad outcomes.

What would the picture look like if the British Paediatric Surveillance unit were to write to all consultants asking for deaths or admissions following use of prostaglandins, oxytocin, amniotomy, pethidine, diamorphine, epidurals, fetal scalp monitors and elective caesarean sections? Maybe the Children Nationwide Research Fund which funded this study, would fund them too. We also need neurology, urology, gynaecology and psychiatric surveillance units to pick up maternal morbidity following inductions, epidurals and other interventions.

Meanwhile, most maternity units are unconcerned about lack of evidence of harm. They have a pool in the brochure, but it just happens never to be available for any mother who wants to use it.

Reference

- Gilbert, R, Tookey, P, Perinatal mortality and morbidity among babies delivered in water: surveillance study and postal survey BMJ 1999 vol 319 pp 483- 7

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Entonox and Cross Infection

Six years ago a report from Australia suggested that a patient had got hepatitis C from contaminated anaesthetic breathing equipment. Anaesthetists recommended that microbiological filters should be used, and this practice is now common. However, it does not apply to Entonox equipment, which is widely used by ambulance crews, in A and E department - and in maternity units.

Two anaesthetists in Peterborough carried out a survey of 20 obstetric units in Anglia and Oxford Region, to find out the practice with regard to cleaning Entonox equipment and use of microbiological filters. They found a wide variety of practice -no formal tuition in disinfection methods; people just "learn on the job".

All the hospitals cleaned masks between patients - mostly with soap and water . Mouthpieces were also cleaned, though some used disposables. Only two hospitals used filters. In most hospitals (18 out of 20) the expiratory valve is not cleaned between patients, though in two it is wiped clean. This valve is only 15 cm from the patients mouth and infected debris is likely to be common. Any contamination is likely also to affect the rubber tubing.

Most hospitals treated patients classified as "high-risk" differently (i.e. those known to have risk factors for HIV or hepatitis) in that equipment was cleaned "a bit more thoroughly" at some hospitals or sent for sterilisation. The authors found this worrying, because "implicit in this behaviour is the assumption that normal procedures are not sufficient for protection against blood- borne and other viruses". And anyway

the procedures for "high risk" were probably only adequate in half the hospitals studied.

They recommend that microbiological filters, to protect women from viruses, should be used on all Entonox apparatus.

AIMS Comment

This is a useful and important piece of work, and should be followed up by all our members on CHCs and Maternity Services Liaison Committees.

Reference

- Chilvers R and Weisz M. Entonox equipment as a potential source of cross-infection, Anaesthesia, 2000; l55: 176-9

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Organic solvents cause malformed babies

A study from Canada has shown that women who work with organic solvents have a greatly increased risk of damaging their babies. Although other studies have shown this, the Toronto team have produced the first prospective study - comparing exposed pregnant women with a control group.

The 125 solvent-exposed women worked in a variety of jobs -as artists, graphic designers, laboratory technicians, veterinary technicians, car cleaners, factory workers and office workers, chemists, funeral home workers. It was found that they were already likely to have had more miscarriages than the control group. 13 of them went on to have a baby with a major malformation compared with 1 of the 125 controls. 5 exposed women had babies with minor malformations compared with 1 control.

Twelve of the 13 women who had a baby with a major abnormality actually got symptoms themselves from their exposure at work. The abnormalities were all different - but the authors point out that the organic solvents also varied, and included aliphatic and aromatic hydrocarbons, phenols, trichlorethylene, xylene, vinyl chloride and acetone.

Sixteen women with longer exposure (7 months or more) had fetal distress in labour compared with only 1 with shorter exposure. They also had lower birth weight babies, and were more likely to deliver early.

AIMS Comment

Both animal and human studies have shown that industrial solvents are dangerous to the fetus; they readily cross the placenta. However this is the first prospective, controlled study in pregnant women and shows an alarmingly increased risk. This stresses the importance of taking occupational histories from pregnant women (including those having miscarriages), safeguarding pregnant workers, and having large warnings on containers of goods containing solvents for industrial or domestic use.

Reference

- Khattak S, et al, Pregnancy outcome following gestational exposure to organic solvents, JAMA, 1999; 281: 1106-9

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Gallbladder and appendicitis risk after caesarean

Measuring how many mothers are sick enough to go back into hospital after going home with the baby is a crude but effective means of looking at serious complications. Researchers in Seattle, USA, checked re-admissions to hospital within 60 days of giving birth to their first child for over 200,000 women. They compared rates for those who had caesareans, forceps or vacuum, and vaginal deliveries.

Caesarean mothers had a significantly increased risk (almost twice as high) of being readmitted compared with those who had a vaginal delivery. There were increased risks for uterine infection, wound complications, cardiopulmonary problems and thromboses. Unexpected increases were also found in gall bladder disease and appendicitis, which had not previously been reported as risks of caesarean although gallbladder problems are known to happen after other abdominal surgery. The authors suggest that appendicitis might be increased because the abdomen is disturbed and an existing subclinical infection could be exacerbated. 17 per 1000 of caesarean mothers were rehospitalised.

Forceps and vacuum deliveries also significantly increased readmission rates, though not as much. Major causes were postpartum haemorrhage, genitourinary tract problems, wound complications and pelvic injury.

While only 1.2% of women needed readmission, there was an 80% increase in hospitalisation for those who had been sectioned, and a 30% increase after assisted deliveries.

The authors suggest reducing caesareans by providing trained support in labour, a larger role for midwives, low-dose epidurals when pain management is necessary, second opinions on the need for a section, use of external cephalic version and moxibustion to reduce operations for breech babies, making infection control a priority (e.g. fewer vaginal examinations).

AIMS Comment

This is a valuable study, and shows that the economic and health costs of caesareans are higher than we

thought. It would be useful to have comparable figures for readmission rates in the UK. The gallbladder and appendicitis risks, though small, are intriguing. Re-admissions are the tip of the iceberg of maternal health problems. The 60 day limit on this study will exclude many forceps/episiotomy patients who are getting repairs many months or years later.

Reference

- Lydon-Rochell, M. et al, Association between method of delivery and maternal rehospitalization, JAMA, 2000; 283 2411-6

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