AIMS For a better birth...

Research Roundup

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AIMS Journal, Spring 2002, Vol 14 No 1

Emergency caesareans - how long does it take?

"A woman who needs an emergency caesarean doubles her chance of getting it within 30 minutes if she is in a small district hospital in Gravesend rather than a large maternity unit in Oxford. What is happening elsewhere?"

Two more studies on how long it takes to do an "emergency" caesarean have appeared - one from a teaching unit the other from a district general hospital.

Oxford

A study from Oxford[1] just published but based on data collected in 1996, has found that only 39 per cent of caesarean sections for fetal distress were done within 30 minutes, which is the standard maternity units are supposed to achieve. The results were worse than those found in 1989, despite efforts made since to improve performance. However, the authors suggest that quicker sections may not necessarily be beneficial to the baby - and telling a mother in labour she needs an emergency section might cause anxiety that damages the baby.

This is a teaching hospital caring for nearly 6,000 mothers a year and the authors looked prospectively at caesarean deliveries throughout 1996 to compare time an emergency caesarean was decided on with the delivery time (the "decision-to-delivery interval"). The obstetricians on duty did not know the data was being collected. At that time the overall caesarean rate in the hospital was 15.4 per cent (elective and emergency)

"Emergency" sections vary in urgency, and are done for a variety of reasons and this paper has four groups:

"Crash" sections (the most urgent) are done when the baby is at immediate risk of death (e.g. abruption of the placenta, rupture of the uterus, or cord prolapse). There were 24 of these and they took a median time of 27.4 minutes

"Emergency" sections are done when there is fetal distress in labour, or labour is failing, or for maternal reasons. There were 385 of these and commonest reasons for doing them were fetal distress and failure to progress. The median time was 42.9 minutes if there was fetal distress and 71.1 minutes without fetal distress. However, there were different groups in this category. The quickest caesareans were for failed ventouse or forceps. These took 34.2 minutes. Malpresentations (including breech) took 89.8 minutes and the slowest were failed inductions, which took 93.8 minutes.

"Urgent" sections are those where a decision has been made within the previous 24 hours that a section would be needed for the baby (fetal distress) or the mother (e.g. pre-eclampsia) There were 67 of these and they took 124.7 minutes if done for the fetus and 97.4 minutes if done for the mother.

"Pre-empted" sections were done after labour had started or membranes ruptured, but a decision had been taken more than 24 hours beforehand that a section would be necessary (e.g. for malpresentation, previous surgery, maternal request, or multiple pregnancy). There were 57 of these and the mean time was 140.5 minutes.

Six of the babies died. Two were stillborn - one 62 minutes after a caesarean was ordered for failed induction at 30 weeks. It was found that a previous section scar had separated. The other had a caesarean for placental separation that took 38 minutes; there had been difficulty in intubating the mother. Three of those who died after birth died of prematurity and the fourth had serious abnormalities

AIMS note
Delivery intervals for the neonatal deaths are not given.

Time of day or day of the week did not make a difference to delays - except that sections between 2 am and 7 am, when there were fewer staff on duty, were quicker - presumably because staff weren't also doing planned inductions and caesareans then.

The authors suggest that the failure to reduce delays since a 1989 survey is due to the unit being less well staffed, the increase in the caesarean rate, the rise in use of regional anaesthesia, and the reduction in experience of obstetric staff.

It is usually quicker to do a general than a regional anaesthetic in an emergency, and this markedly reduced the delivery interval. However, measurements of acidity of the babies' blood gave better results for babies born with regional anaesthesia. This could be, because the more serious cases are selected for the faster general anaesthetic, or it could be because the general anaesthetic has a worse effect on the baby. The problem is, no one is sure what these blood measurements actually predict in terms of long-term outcome for the baby.

The study found that babies who waited longer for the caesarean often actually had better blood pH values, although babies born by "crash" sections had the poorest measurements. They suggest that the reason may be the stress caused to the mother when she is told the baby is at risk may lead to a high level of stress chemicals in the blood, which then could reduce the blood supply to the baby, causing further damage.

AIMS note

It has taken six years for the Oxford data to be published. Although the authors give "median" times,they do not give the range of times - from shortest to longest - from which the median was calculated, which would be usual in such a paper.

Gravesend

A less detailed paper comes from Gravesend and North Kent Hospital,[2] a district general hospital with 2300 births a year with caesarean rate (emergency and elective) of 24 per cent. The paper does not give dates when the study was done.

Five surveys of emergency caesareans were carried out to look at decision-to- delivery interval, with 3-6 months between them. In the initial survey only 36 per cent of emergency sections were done in 30 minutes or less although by 35 minutes 49 per cent had been done. There was over an hour's delay in 10 per cent of cases. However, it was found that almost half the delayed caesareans weren't really "emergencies" at all.

The main causes of delay were time in transferring women to theatre, and time taken to start the anaesthetic. However, notekeeping was poor in the delayed cases.

Before the next survey, a time sheet was introduced into notes to record the time each person was called and the time of arrival - the anaesthetist, operating assistant, paediatrician (though oddly not the obstetrician) - as well as the time the patient arrived in theatre. If the interval was more than 30 minutes, the reason had to be filled in. In the surveys that followed at 3-6 monthly intervals, the numbers achieving the 30-minute deadline gradually improved until 71 per cent were done within that time. Around 90 per cent were done within 40 minutes. The authors suggest this is a more realistic deadline to aim at, and anyway there is no objective evidence that 30 minutes is the optimum time.

AIMS note

This study does not give outcomes, break down "emergencies" into different types, or give outcomes for the baby, including mortality data.

AIMS Comment

This is an important issue - not only clinically, but politically and legally. It is not easy to research since definitions of what is actually an "emergency" caesarean vary. There is also a wide group of reasons for emergency sections, and these have varying degrees of urgency.

Since 1998 guidelines from the RCOG and the RC Anaesthetists have included a 30-minute standard for emergency sections; it is also required by the Clinical Negligence Scheme for Trusts. In the last Confidential Enquiry into Maternal Deaths, two mothers died because of delay when the hospital was busy. The Confidential Enquiries into Stillbirths and Neonatal Deaths (CESDI) have reported many cases of babies lost by delays. Their 7th Annual Report published in 2000 had a special chapter on deaths caused by delays in obstetric anaesthesia.3 The commonest failure was delay in assembling the delivery team. They set out standards that should be met and requirements for audit.

There is no doubt that deaths, and presumably cases of infant brain damage, have been caused by delay when a section is urgently needed and the CESDI 7th Report gave some shocking examples. AIMS has certainly had cases where babies have died unnecessarily while the mother is in hospital - perhaps with severe pre-eclampsia - while waiting for a caesarean, often because the theatres were "busy" (perhaps with a lot of unnecessary sections?). It was a relief to see the Oxford team were supporting what we have been telling the Confidential Enquiries for years - the increase in the caesarean rate means staff and theatre space may not be available for urgent cases.

However, more and more studies are being published showing hospitals are not achieving this deadline, and obstetricians are now saying a) it may not be reasonably achievable; b) there is no objective evidence that 30 minutes is the appropriate time limit; and c) it may not be best for the babies anyway. However the Oxford paper does not give Apgar scores relating to length of delay and there is no long term follow up of the babies to support the opinion that those who wait longer may even have better outcomes. Since type of anaesthesia (general or regional) can also affect the baby's state, researchers would need larger

numbers to study outcomes, which would mean a multi-centre study.

We should not be naive. Undoubtedly these reports happen to serve obstetricians' interests. Over the years we have noticed how the pattern of medical publications is affected by the need to provide data for protecting doctors and institutions (see also the item below on babies being cut during caesareans). The main author of the Oxford paper declares an interest as a member of the Medical Defence Union Council. Once there are clinical guidelines, doctors have to be more careful because if they fail to achieve those standards they can be criticised. Even worse, guidelines could provide useful evidence if aggrieved patients sue. Surveys that can to quoted to show that the care in that particular case was no different from what was common at that, or other hospitals, can provide useful defence evidence.

But these studies do provide useful information for consumers, both on patterns of care at individual hospitals and the variations between them. Although the two studies do not cover the same periods of time, on the face of it they show that a woman who needs an emergency caesarean stands twice the chance of getting it within half an hour at a small district hospital in Gravesend than a posh teaching unit in Oxford. What do audits of other units show? Unfortunately Gravesend thinks their 71 per cent success rate may be the best they can do, but their 24 per cent section rate must absorb many of their resources.

How are improvements made? Requiring staff to record the time the caesarean decision was taken reduced the time interval substantially at Gravesend, but not at Oxford.

Gravesend may have been more effective because they included a specific form to fill in with much more detailed information, e.g. when each member of staff was called and when they arrived. Moreover Gravesend people knew they were being audited, those at Oxford did not. But as Oxford suggests, there are other factors at work - numbers of staff and workload from other procedures (for instance, other unnecessary sections). We know this to be true from the horror stories we receive.

As consumers we have continually criticised the fact that women have been corralled into fewer and larger units to give birth on the grounds that it was safer, but once in, we knew that even high risk women did not necessarily receive essential care. How dare obstetricians "shroud wave" and try to intimidate women who want a home birth now we know how long they take to do an emergency section on those who are already in hospital. If some of them are now saying that a longer delay often makes no difference to many babies - they could even be better off - there is plenty of time for the midwife to phone ahead to assemble the team and get the ambulance.

References

1. Mackenzie I Z, Cooke I, What is a reasonable time from decision-to-delivery by caesarean section? Evidence from 415 deliveries, Br J Ob Gyn, 2002; 109: 498-504
2. Helmy W et al, The decision-to-delivery interval for emergency caesarean section: is 30 minutes a realistic target?, Br J Ob Gyn, 2002; 109: 505-8

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How often do babies get cut during caesarean deliveries?

At the Royal Gwent Hospital in Newport, a mother sued after her baby was cut on the face during an elective section. At the time the hospital believed such injuries were rare - less than 1 in 100, so mothers need not be warned of the risk. The litigation prompted them to do a prospective study for the year 2000. A book was placed next to the resuscitation trolley in which all injuries were to be entered.

There was a 24 per cent caesarean rate (876 women) 1.5 per cent of the babies had skin lacerations (13 babies) - seven of these had emergency sections and six elective sections. Two of the elective sections were done because the baby was breech, two at "maternal request", one because there was a previous section, one for disproportion and one for a transverse lie. Three of the emergency sections were done because of "failure to progress".

A consultant did three of the sections, a registrar did seven (the same registrar did four of them) "middle grades" did two and a senior house officer supervised by a consultant did one. They say "injury occurred regardless of the grade of operator". However, the fact that four injuries were caused by one doctor "implies a fault in technique" said the authors. One injury was done by scissors, the rest by a scalpel.

Only 7 of the 13 injuries were noted by the surgeon. The authors suggest that is why obstetricians think such injuries are "rare" - the baby is taken away and wrapped, the cut is not seen until later and the obstetrician may not be told.

They suggest that the risk of lacerations to the baby should be something mothers are warned about.

AIMS Comment

This is yet another example of how risks which have always existed, which mothers were never warned of, are suddenly published and made transparent if there is a need to protect doctors from litigation. If obstetricians can produce literature saying that it is a "standard risk" of the procedure, and go on to warn mothers about it, they have already taken steps to begin a future defence. Can you imagine a mother being rushed off for a section, already terrified, being told, "By the way, we might accidentally cut your baby in getting it out"?

However, questions remain. The fact that one registrar was responsible for nearly a third of the injuries in one year, and this was only discovered because they did a prospective study is very worrying. What did they do about that doctor? There is also the question of technique; the article describes procedures that should be used to minimise risk.

Apart from the transverse baby, who was injured on the thigh, they do not tell us where the others were injured, apart from the left or right side.

Unfortunately the authors do not tell us what percentage of caesareans at the hospital were elective and how many were emergency. However it is clear that those who have elective sections are still at risk.

We have had several cases of such injuries reported to us. In one, a baby girl was cut across the face and will be permanently scarred. The mother heard the midwives say to each other "How many more is he going to cut?"

Reference

- Wiener J and Westwood J, Fetal lacerations at caesarean section, J Ob Gyn, 2002; 22: 23-4

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Why women want caesareans in Brazil

Brazil has one of the highest caesarean rates in the world; 55 per cent of women in families earning more than £700 a month had a caesarean - yet WHO recommends a section rate of not more than 15 per cent. An anthropologist and an epidemiologist have looked at reasons why women choose caesareans in one town.

Wealthy and educated women, those who had more antenatal care, women having first babies, and those in lower risk groups were more likely to have a caesarean. Apart from those having a first child, those who had caesareans were the women least likely to need one.

Poorer women wanted sections because they said otherwise they were more likely to get negligent birth care because of social and economic prejudice. They would not get the attention they needed in labour, so a caesarean was safer and less traumatic than a vaginal birth.

Attempts to avoid a vaginal birth were partly due to antagonistic relationships with medical staff. Women who could not afford to pay for caesareans would try all sorts of ways to obtain one: going to hospital early in labour, paying for the odd private consultation, paying the on-call obstetrician half-price for a caesarean. Some tried to get inductions because it helped them to get a section - although the obstetricians believed induction reduced sections.

Poorer women had more inductions, which confirmed the women's view that doctors did inductions to prevent caesareans only on poor women.

The authors say that traumatic births often result from antagonism with doctors and a poor hospital environment - particularly acute problems for women who already feel marginalized. Brazil has been trying to provide more education about birth, but this does not deal with the reasons for women wanting a caesarean. The issue was not just lack of information but problems in differences in quality of care.

AIMS Comment

This is an enormously important study, for which we are most grateful. It looks at the underlying reasons why women make choices, and shows how women with no chance of getting "the best" will choose between the least damaging options. There are some parallels here, with cases where women tell us they chose epidurals or sections, not because they had really wanted them, but because they were less awful than the alternative.

Reference

- Behague D, et al, Consumer demand for caesarean sections in Brazil: population based birth cohort study linking ethnographic and epidemiological methods, BMJ. 2002; 324: 942-6

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