Caesarean section births for twins: rational choice, or a non-evidence-based intervention that may cause harm?

David A Ellwood[1,2]

The change from vaginal births to operative births may entail unforeseen longer term consequences

The benefits and risks of birth by caesarean section are debated, with passionate proponents on each side of the discussion.[1] The most recent national data (for 2017) indicate that in Australia more than one-third of babies (35%) were born after caesarean section.[2] While its safety has undoubtedly improved, it is still reported that greater maternal and perinatal morbidity and mortality are associated with caesarean section than with vaginal births.[3] The longer term health outcomes for mother and child are also important.[4] In this issue of the *MJA*, Liu and her colleagues[5] report that the caesarean rate for twin pregnancies in Victoria has almost tripled over the past three decades, and that the most frequent reason for operative intervention was the twin pregnancy itself. It is pertinent to examine the reasons for this trend and to ask whether it is justified.

The relative merits of the mode of twin birth have been examined in a Canadian randomised trial including selected twin pregnancies that had been assessed by ultrasound during the 7 days prior to randomisation. Compared with vaginal birth, the investigators found no benefit (or harm) associated with caesarean section births.[6] However, the trial only examined short term outcomes; the longer term outcomes for child health of perinatal interventions are also important, as are their impact on subsequent pregnancies. The results of the Canadian trial were not available to Victorian obstetricians until the final years of the period (2013–2015) covered by the study by Liu and her co-authors. They do not appear to have yet had a major impact on clinical practice; whether they will reduce the proportion of caesarean twin births in the next few years remains to be seen.

The population-based study by Liu and colleagues[5] describes what has happened, but it could not determine why there has been such a change in how twins are born. As the authors found that most caesarean twin births were elective, an element of choice is implied, but whose choice is it? Are women freely choosing caesarean sections, or are they guided by the opinions of their obstetricians? When women choose an operative birth, is their decision truly informed by evidence, or is it influenced by views that reflect a complex interaction of factors? For example, as clinicians have increasingly less experience with vaginal twin births, the younger doctors they are training will inevitably become even less confident and competent in this area.

This will affect how women are counselled about the different methods of birth. For example, an obstetrician with limited

experience in dealing with the complicated malpresentation of a second twin may overemphasise the risk of its happening. Since the results of the Term Breech Trial[7] were published in 2000, the numbers of vaginal breech births have declined substantially.[8] This change in practice has reduced the exposure of obstetricians to vaginal breech births and, indirectly, their confidence regarding vaginal twin births, because of the chance that the second twin might be in breech presentation. It is curious that the results of the Term Breech Trial changed practice almost overnight, but those of the analogous study of twin pregnancies (by the same researchers)[6] have been largely disregarded. Shared decision-making about the mode of birth may limit the use of caesarean birth, and should be based on evidence rather than opinion.[9]

The increased monitoring of twin pregnancies with ultrasound and its impact on the timing and method of birth may also be relevant factors. The rising caesarean rate mirrors the increasing use of ultrasound to monitor fetal growth in twins, and a causative link is feasible. Both mono- and dichorionic twin pregnancies can be complicated by growth discordance; although estimating fetal weight using ultrasound is imprecise, my experience informs me that obstetric decision-making is strongly influenced by the ultrasound results. This is another area of clinical practice that needs investigating, as we must be certain that increased ultrasound surveillance of twin pregnancies is not doing more harm than good. Despite its obvious benefits, especially in monochorionic twin pregnancies, it is possible that small growth differences in less complicated cases are inappropriately regarded as indications for a caesarean section.

Why is there such general concern about the rising rates of caesarean section births? It is because the longer term consequences of this uncontrolled experiment are unknown. If providers of intrapartum care become so unfamiliar with managing the complexities of vaginal births that they avoid them whenever possible, we will be accepting that all births can (and perhaps should) involve abdominal incisions. This radical approach to a

[1] Griffith University, Gold Coast, QLD. [2] Gold Coast University Hospital, Gold Coast, QLD. d.ellwood@griffith.edu.au • doi: 10.5694/mja2.50454 • See Research (Liu).

fundamental feature of our species' physiology may introduce a range of health problems for future generations that could have been avoided.

Unfortunately, there is no chance of turning back without considerable work: policy changes, educating clinicians about research and the evidence for the safety of different modes of birth, and clinician training are all required, as is raising public awareness of the questions involved. Studies such as that by Liu and her colleagues provide the essential first steps in achieving change.

Competing interests: No relevant disclosures.

Provenance: Commissioned; externally peer reviewed. ■

1 Ellwood DA, Oats J. Every caesarean section must count. *Aust N Z J Obstets Gynaecol* 2016; 56: 450–452.

2 Australian Institute of Health and Welfare. Australia's mothers and babies 2017: in brief (Cat. No. PER 100; Perinatal statistics series no. 35). Canberra: AIHW, 2019.

3 Keag OE, Norman JE. Stock SJ. Long-term risks and benefits associated with cesarean delivery for mother, baby, and subsequent pregnancies: systematic review and meta-analysis. *PLoS Med* 2018; 15: e1002494.

4 Bentley JP, Roberts CL, Bowen JR, et al. Planned birth before 39 weeks and child development: a population-based study. *Pediatrics* 2016; 138: e20162002.

5 Liu Y, Davey MA, Lee R, et al. Changes in the modes of twin birth in Victoria, 1983–2015. *Med J Aust* 2020; 212: 82–88.

6 Barrett JFR, Hannah ME, Hutton EK, et al. A randomized trial of planned cesarean or vaginal delivery for twin pregnancy. *New Engl J Med* 2013; 369: 1295–1305.

7 Hannah ME, Hannah WJ, Hewson SA, et al. Planned caesarean section versus planned vaginal birth for breech presentation at term: a randomised multicentre trial. Term Breech Trial Collaborative Group. *Lancet* 2000; 356: 1375–1383.

8 Australian Department of Health. Pregnancy care guidelines: 61.3. Breech presentation. Updated 17 May 2019. https://www.health.gov.au/resources/pregnancy-care-guidelines/part-j-clinical-assessments-in-late-pregnancy/fetal-presentation#613-breech-presentation (viewed Nov 2019).

9 Coates D, Thirukumar P, Spear V, et al. What are women's mode of birth preferences and why? A systematic scoping review. *Women Birth*; https://doi.org/10.1016/j.wombi.2019.09.005. [Epub ahead of print] ■