Editorial

Limiting Caesarean Section Before 38 Weeks of Gestation: an Opportunity for Quality Improvement

In Hong Kong, the number of deliveries has increased from a historical low of 43,962 in the year of severe acute respiratory syndrome (2003) to 88,576 in the year 2010[1]. Though the total number of deliveries is increasing and comparable to highest delivery rate in the last 30 years (87,104 in 1981), a substantial proportion was for expectant mothers from Mainland China.

What is the Major Problem with the Increase in the Number of Deliveries?

The safety and quality of service to the newborns, as well as to the mothers, constitute major concerns regarding the surging number of deliveries. While the public and private sectors working hand in hand can still cater to the demand for maternity services, neonatal intensive care is mainly provided by neonatal intensive care units (NICUs) in hospitals of the Hospital Authority (HA). Neonatologists have formed a frontline concern group (March 2011) to express their views. Various measures have been taken by the Authority, including the injection of resources to increase NICU beds by 11% from 100 to 111 in the year 2012.

How Can We Decrease Referrals to Neonatal Intensive Care Units?

The Hong Kong College of Obstetricians and Gynaecologists has taken the lead and issued guidelines (2011)[2] on the identification of high-risk pregnancies that increase the demand for NICU care. Thus, for safety reasons, obstetricians could advise an expectant mother from Mainland China carrying such high-risk pregnancy to stay in mainland for her confinement.

The Hong Kong Baptist Hospital (HKBH) that runs the busiest maternity unit in Hong Kong (annual number of deliveries of 12,000 to 13,000) has implemented a new policy. For the first time in Hong Kong, it prohibits elective Caesarean section (CS) before 38 weeks of gestation without an obstetric indication. Since enforcement of this new policy in January 2011, the referral rate of newborns from HKBH to the NICUs of the HA has dropped dramatically from 1.57% in 2010 to 0.60% in 2011. This number has decreased further to a historical low of 0.23% in the first quarter of 2012, as the impact of this policy is becoming more widely appreciated and enforced. Additional measures of not to accept expectant mothers from Mainland China with multiple pregnancies (from 2012) have also contributed.

Caesarean Section Rates in Private Obstetrics Units in Hong Kong

The CS rate in private obstetrics units in Hong Kong is about 60 to 70%, which is higher than the 20 to 30% rate in HA hospitals. It is mostly a result of natural selection as expectant mothers who want a personal choice of delivery mode and date, opt for private instead of public (HA) obstetrics units. Notably in 2011, the National Institute for Health and Clinical Excellence (NICE) has recommended to offer a planned CS if a woman still requests CS after discussion and offer of support (including perinatal mental health support for anxiety about vaginal childbirth). An obstetrician unwilling to perform a CS under such circumstances should refer the woman to a colleague prepared to do so[3].

How Can the Policy of Limiting Caesarean Section Before 38 Weeks Improve the Neonatal Outcomes and/or Reduce Neonatal Intensive Care Unit Admissions?

The incidence of neonatal respiratory distress syndrome (RDS) has been shown to increase with elective CSs at an earlier gestational age[4]. Guidelines from both NICE and the American College of Obstetricians and Gynecologists (ACOG) recommend against elective CS before 39 weeks[3,5]. In Hong Kong, folklore sometimes suggests an auspicious time of birth, for the baby or mother. Whilst expectant mothers from mainland China may choose a socially convenient time for their relatives, with less regard for the gestational age. Indeed mothers and even obstetricians might not take the difference of a few days or a week of gestation near term too seriously in deciding the delivery date. Now, by prohibiting CS before 38 weeks without an obstetric indication, the unnecessary risk of RDS or NICU admission should decrease.

Why 38 Weeks Instead of 39 Weeks?

Racial differences have been shown in the timing of elective CS and RDS. The ACOG and NICE guidelines are based on data from Caucasians. South Asian has more respiratory problem with delivery at 39 weeks instead of 38 weeks[6]. However, there are no data in the Chinese. In this issue of the Journal, Tse et al[7] report the results of their 5-year retrospective study of the respiratory dysfunction in different gestational age after CS in the Chinese. The authors studied 31,420 infants including 2602 delivered by CS; 85% were Chinese. They found a significantly increased risk of combined respiratory morbidity in babies delivered by elective CS between week 37 and week 37^{+6} days. The risk of transient tachypnoea of the newborn is significantly increased at 37 and 38 weeks, but Chinese ethnicity only showed significance at 37 weeks (not 38 weeks). One of the concerns in Tse et al's study[7] was that deliveries between weeks 37 and 38 weeks were likely to have an obstetric indication that might affect interpretation of the results.

Potential Risks of the Policy of Limiting Caesarean Section Before 38 Weeks

There are two potential risks associated with the new policy of limiting CS before 38 weeks of gestation. It may increase the risk of emergency sections which carry a higher risk to the mother[8]. The risk of spontaneous onset of labour at 37 and 38 weeks is estimated to be 3 to 4% and 10%, respectively[9]. While waiting for elective CS, there is a risk of stillbirth. Recently, an obstetrics unit in the United States reported that limiting CS before 39 weeks significantly increased the frequency of stillbirths[10]. In Hong Kong, the stillbirth rate between 37 and 38 weeks is 0.2 per 1,000 pregnancies[11]. The data from HKBH have not shown any significant increase in the number of emergency CSs, and there was no increase in stillbirths after implementation of the new policy in 2011 (unpublished data). Extension of the CS limit to 39 weeks may increase these two risks.

Conclusion

Crisis and challenge could become an opportunity for improvement. A management problem on service capacity is nicely addressed by reviewing and revising clinical practice. Elective CS before 38 weeks of gestation is associated with increased risk of neonatal respiratory morbidity, and demand for NICU care. We should limit such procedures in Chinese mothers without obstetric indications. Whether we should extend the limit to 39 weeks of gestation definitely requires further study.

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