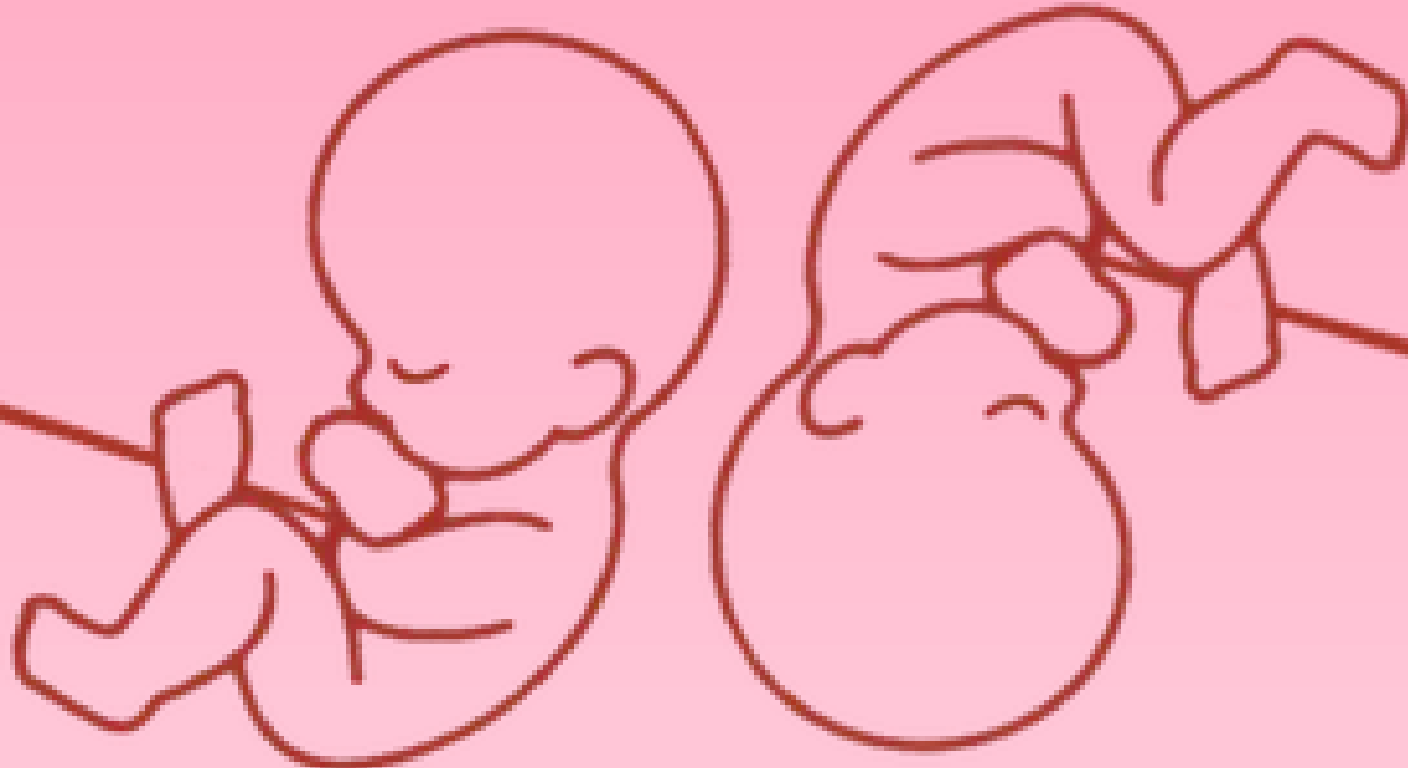


The success rate of induction of labour in twin compared to singleton pregnancies

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Introduction

- Compared to singleton pregnancies, twin pregnancies are more likely to deliver earlier by induction of labour to reduce risk of maternal and fetal complications.
- International studies showed conflicting results in the success rate of induction of labour in twin pregnancies as compared to singleton pregnancies.

Objective

- To evaluate the success rate of induction of labour in twin pregnancies undergoing induction of labour, in comparison to singleton pregnancies.

Materials and method

- Study design
 - A retrospective matched cohort study conducted in a regional hospital in Hong Kong over 8 years.
 - Twin pregnancies more than 24 weeks of gestation and with intact membranes undergoing induction of labour were identified using an electronic record system between January 2012 and December 2020 at a Hong Kong regional obstetrics unit.
 - The exclusion criteria include premature rupture of membranes, latent phase of labour, active phase of labour, threatened preterm labour which goes into spontaneous labour and intrauterine fetal death.
 - For the purpose of comparison, singleton pregnancies that underwent induction of labour during the study period are matched in one-to-one ratio for the parity (nulliparous or multiparous), maternal age (advanced maternal age ≥ 35 year-old or not) and the indication of induction of labour. The control patient delivered closest to the delivery date of the study patient is selected. The identical inclusion and exclusion criteria were applied to two groups of patients.
- Statistical analysis
 - McNemar's test is used in this matched case-control analysis.
 - P-value of <0.05 taken as statistically significant

Results

- A total of 160 patients with twin pregnancies were included and matched with patients with singleton pregnancies in one-to-one ratio. There were 90 nulliparous and 70 multiparous patients.
- In patients with twin pregnancies undergoing induction of labour, the number of successful vaginal deliveries and caesarean sections were 118 (73.8%) and 41 (25.6%), respectively. One twin (0.6%) was delivered by caesarean section following vaginal delivery of the first twin. Among the matched singleton pregnancies undergoing induction of labour, 134 (83.8%) patients had successful vaginal deliveries and 26 (16.3%) patients underwent caesarean section.
- In the matched analysis, patients with twin pregnancies underwent induction of labour had a significantly higher risk of failed induction of labour requiring caesarean section (OR 2.14, CI 95% 1.10 to 4.37, $p = 0.02$) than singleton pregnancies (Figure 1) . The modes of delivery in twin pregnancies were summarized in Table 1.

Figure 1. Results of mode of deliveries in matched twin and singleton pregnancies

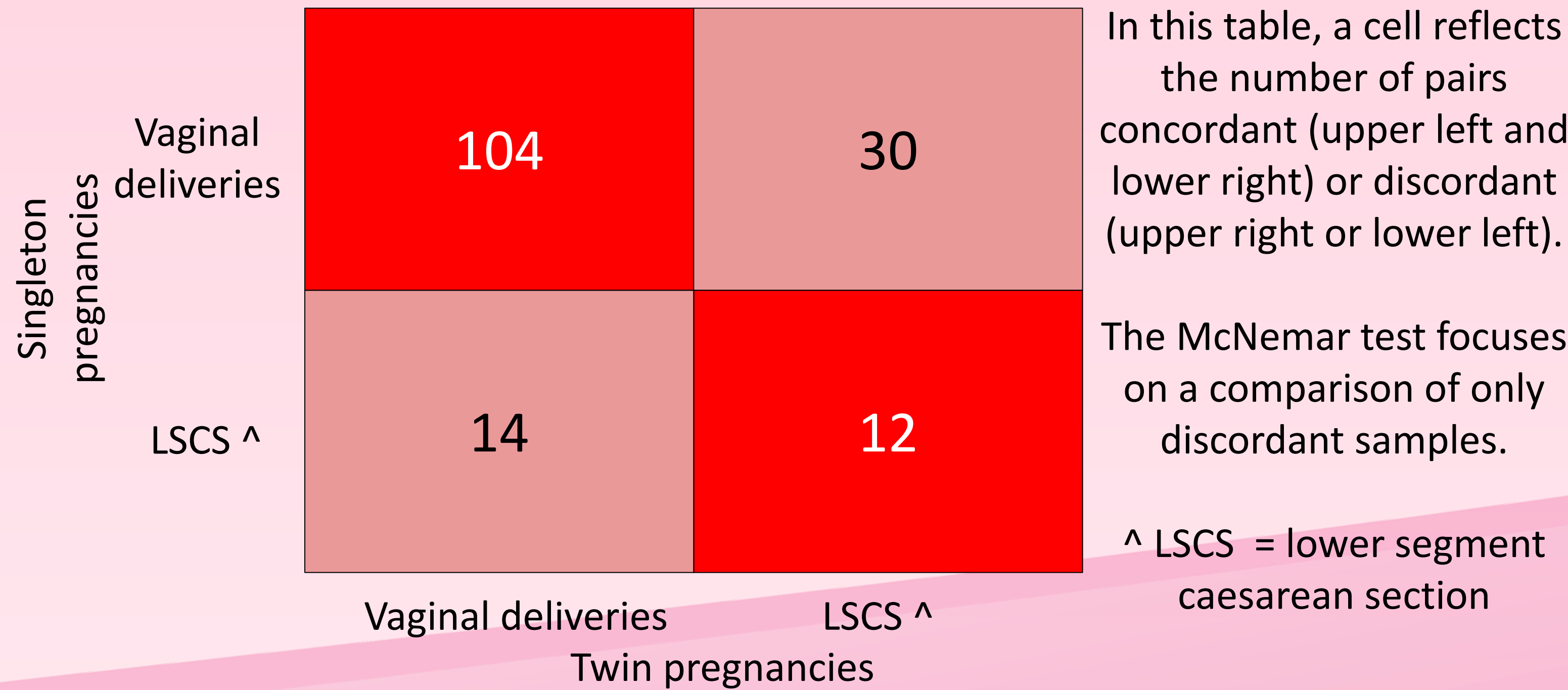


Table 1. Mode of delivery in twin pregnancies	
1 st twin + 2 nd twin	
Vaginal cephalic + vaginal cephalic	45
Vaginal cephalic + vaginal breech	42
Vaginal cephalic + vacuum delivery	15
Vacuum delivery + vaginal cephalic	4
Vacuum delivery + vaginal breech	7
Vacuum delivery + vacuum delivery	1
Forceps delivery + vaginal cephalic	1
Vaginal delivery + forceps delivery	2
Vacuum delivery + forceps delivery after failed vacuum extraction	1
LSCS + LSCS	41
Vacuum delivery + LSCS	1

Conclusion

- The failure rate of induction of labour in twin pregnancy was higher than in singleton pregnancy. Nevertheless, more than 70% of patients with twin pregnancies had successful vaginal deliveries.