Objectives
Vacuum extraction delivery (VED) is widely used to reduce the rate of Cesarean delivery. Although it is unclear whether vacuum extraction causes neonatal brain injury, some guidelines do not recommend VED in preterm fetuses. In order to control confounding factors, we compared the neonatal ultrasonographic findings of paired twins born from a single mother.

Methods
- Retrospective cohort study
- from Sep. 2000 to Mar. 2018 at SNUH
- Inclusion criteria
  - Preterm twin birth (≤35 weeks)
  - One of twin pairs was delivered by VED and the other delivered without vacuum extraction (non-VED)
  - Neonatal brain ultrasound was performed in both twins after delivery
- Exclusion criteria
  - Delayed interval delivered twin pairs
- Statistical analysis
  - McNemar test for categorical variables
  - Wilcoxon signed rank test for continuous variables

Results
Vacuum extraction delivery didn’t increase the risk of brain lesion identified by ultrasound (Figure)

Conclusion
Vacuum extraction delivery can be applied in preterm fetuses because it did not increase the risk of neonatal brain complications in preterm fetuses. However, further large study is required for general acceptance.