

**Is MRI necessary after serial cranial ultrasound****in the neonates graduating neonatal intensive care unit?**

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**목적 :** The purpose of this study was to evaluate usefulness of MR imaging in addition to brain US in the high-risk group neonates before discharge of the neonatal intensive care unit (NICU).

**대상 및 방법 :** Retrospective review of 362 US and 106 MR scans in 106 neonates and young infants was performed. All of the MR imaging was performed according to NICU follow-up protocol of our institution using 3.0 Tesla scanner and included gradient echo images. Interval between the last US and MR imaging was median 13 days. US and MR images were interpreted blindly by agreement of two radiologists in terms of grade of germinal matrix /intraventricular hemorrhage (GMH/IVH), presence of parenchymal lesion, and extraparenchymal hemorrhage.

**결과 :** Eighty (75%) infants exhibited hemorrhage or parenchymal lesions either on US or MR images. Among the 212 lateral ventricles of the 106 neonates, US demonstrated Grade 1/2/3/4 GMH/IVH in 21, 5, 12, 0 each. On MR images 1, 49, 8, 1, were identified in each grades. Seven GMH and 43 IVH were additionally detected by MRI. On the other hand, 27 GMH were only detected by US and, among them, the interval of US and MR was less than 3 days in 13. Other intracranial lesions only detected on MR images were posterior fossa hemorrhage (n=4), parenchymal hemorrhage (n=4), SDH (n=7), and SAH (n=2).

**결론 :** MR imaging is an excellent complimentary study after serial brain US for additional detection of the intracranial pathology, particularly IVH, though US was better to follow-up of GMH in some neonates.