medial temporal gyrus, right cuneus, left inferior parietal lobule and left parieto-occipital arcus) at 6 years. The effect of preterm birth in the right junction of paracentral lobule and the precuneus and in the right transverse temporal gyrus shows statistically significant differences between groups ($p=0.001$, positively correlated with thickness at 6 years in the IUGR group and negatively correlated in the non-IUGR group).

Discussion/conclusion Our results indicate that the regional structural reorganization of cerebral cortex after preterm birth differs in IUGR and non-IUGR subjects. Preterm birth affects the higher order association areas with increased thickness or less thinning in IUGR than non-IUGR born children. These cortical changes might underlay the specific functional deficits observed in these children.

**IMPROVED DETECTION OF INTRACRANIAL HEMORRHAGE IN TERM AND PRETERM NEONATES USING SUSCEPTIBILITY WEIGHTED IMAGING**

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**Background and aims** Magnetic resonance imaging (MRI) at term age has been reported to be superior to cranial ultrasound (cUS) in detecting white matter abnormalities. The aim of this retrospective study was to compare sensitivity of MRI using SWI (susceptibility weighted imaging) and cUS in the detection of intracranial hemorrhage.

**Methods** 68 consecutive term and preterm neonates, who received 3 Tesla MRI of the brain with SWI (Magnetom Skyra, Siemens Healthcare, Erlangen, Germany) around term and serial cUS (Acuson sequoia 512, Siemens Healthcare) during neonatal care, were included in this study between 05/2011 and 02/2012. MRI was performed using a MR-compatible incubator with compatible head coil (LMT nomag, Luebeck, Germany) under sedation. MRI were analyzed by two radiologists independently. Inter-rater agreement was estimated by Cohen’s kappa coefficient.

**Results** MRI and cUS were feasible in all 68 neonates (38 girls, 30 boys, mean gestational age at birth 31.92±4.5 weeks (range 23.3–40.7 weeks). MR imaging was done at 40.3±3.0 weeks (range 30.7–55.7 weeks). Both radiologists independently identified (post-)hemorrhagic alterations in 20 of 68 infants by SWI (inter-rater agreement: K=1). In 10 this was in agreement with cUS, but in 4 of them additional intraventricular and/or parenchymal hemorrhagic components were diagnosed by MRI. All patients with suspected intracranial hemorrhage by cUS were confirmed by MRI.

**Conclusions** We found improved detection of intracranial hemorrhage with high inter-rater agreement by MRI using SWI compared to cUS in term and preterm infants. All hemorrhages diagnosed by cUS could be confirmed by MRI.

**A HYBRID GENOME-KINOME HIGH-THROUGHPUT SCREEN REVEALS NOVEL MITOTIC TUMOR SUPPRESSOR SIGNALING AXIS**

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Faithful cell division maintains genomic stability and prevents cancer. Our cells employ well-orchestrated signaling cascades to ensure meticulous segregation of the genome during mitosis. Failure of these checkpoint mechanisms jeopardizes genome integrity and promotes evolution of cancer cells.