The aim of this study was to compare MRI findings in preterm infants at term age with cranial ultrasounds as predictors in the assessment of neurodevelopment outcomes and need for early habilitation procedures.

The study included 64 premature infants gestational age under 32 weeks who were admitted in NICU at University Hospital Centre Zagreb between years 2013. and 2016. and underwent brain MRI examination. 53,12% examinees were boys and 48,8% were girls. Mean gestational age was 29,0 (+/-3,2) weeks, and mean birth weight was 1336 (+/- 466) g. Reanimation at birth was necessary in 50% of examinees. Some method of mechanical ventilation (invasive or noninvasive) was used in 70% of examinees, in duration of approximately 22 (1-150) days. Cranial ultrasound scans were performed at te age of one day, four days and seven days and then once a week and at term age. Brain MRI examinations were performed at gestational age of 32 weeks and at term age. A statistical analysis of the correlation of ultrasound findings and brain MRI examinations at term age was performed. Cranial ultrasound findings were classified into four group by presence of IVH or leukomalatia: (0-normal finding; 1-mild hyperechogenicity or IVH grade I/II; 2-IVH with ventricular dilatation or presence of periventricular cysts; 3-ventriculomegaly or hydrocephalus and severe periventricular leukomalatia) and in two groups by presence of talamic lesions (present or not present).

MRI findings were classified as normal, mildly abnormal (mild gliosis); moderately abnormal (ventricular dilatation with gliosis, talamic lesions) and severely abnormal group (severe gliosis/PVL and hydrocephalus).

Group of examinees with Apgar score < 5 after 1st minute had moderately to severely abnormal MRI findings. Mechanically ventilated premature infants showed statistically significantly higher (p< 0,001) correlation with severe MRI abnormalities.

Comparison of ultrasound and MRI findings didn’t show good correlation (Kendall Tau= 0,715; p<0,05). Hi-square test showed ultrasound scans statistically significantly overestimate the number of premature infants with lesions (presence of IVH or leukomalatia). The number of talamic lesion was also overestimated by ultrasound scans (Hi-square test 8,824; p=0,004).

But, correlation between methods considering moderately to severely abnormal MRI findings was better (Hi-square test 13,53; p=0,003).

Magnetic resonance imaging is superior method comparing to brain ultrasound, but despite that brain ultrasound is still unavoidable as standardized routine screening method. Together they form the gold standard in the assessment of neurodevelopment outcomes and need for early habilitation procedures in premature infants.
CRAZYTAXY: CASE REPORT OF HETEROTAXY

CLAMPING MY STYLE: CASE SERIES OF RECURRENT IMEDIATE CORD CLAMPING

Introduction Heterotaxy syndrome is a rare congenital defect. It affects the anatomical position and function of visceral organs. Its clinical signs and symptoms are highly variable. Antenatal and postnatal investigations and management should be tailored to each individual.

REFERENCES

CRAZYTAXY: CASE REPORT OF HETEROTAXY SYNDROME WITH POLYSPLENIA

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CLAMPING MY STYLE: CASE SERIES OF RECURRENT NEONATAL BLOOD TRANSFUSIONS ASSOCIATED WITH IMMEDIATE CORD CLAMPING

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