BODY FAT IN NICU AND LONGTERM NEURODEVELOPMENT

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Background: Nutrition of preterm newborns is very important for long term neurodevelopment. However the impact of high energy/protein regimen on body composition has not been favorable resulting in excess fat tissue which has been considered as a trade off for better brain development. The aim of this study is to evaluate the neurodevelopmental outcome of newborns < 32 weeks gestation whose body fat were previously assessed by measuring skinfold thickness (SFT) . These newborns were found to have increased fat tissue compared to controls at 34 weeks corrected age.

Material- method: SFT values of preterm newborns < 32 weeks gestation measured at 34 weeks corrected age NICU were correlated with the neurodevelopmental test (Stanford-Binet) scores at school age. Body mass index (BMI) was also measured to correlate with SFT in neonatal period

Results: Out of 36 newborns 22 were available for school age assessment (mean age 6.7 years $\pm$ 0.5) (15 female, 7 male). Stanford Binet scores were 96 $\pm$ 10.01 and no correlation was observed between SFT thickness at 34 weeks corrected age. BMI at school age was not correlated with SFT either.

Conclusions: Body fat measured by SFT in NICU does not seem to impact on BMI in childhood. Lack of correlation between body fat in neonatal period and school age neurological development could be due to small sample size as well as the fact that all children had scores within normal limits.