**Introduction:** Children born late preterm may have motor or learning difficulties as they grow older. It is important to identify early such problems to refer these children for therapy. Cranial-ultrasound (cranial U/S) is an examination frequently used in preterm neonates, but no study was located examining the relationship of cranial U/S with motor or other difficulties in children born late preterm. Therefore, the aim of this study was to examine the relationship between the cranial U/S of late-preterm neonates at 3 months and their sensory-kinetic development at 2 years of age.

**Participants & Methods:** This was a retrospective study including 22 late-preterm neonates (birth age: 34-37 weeks) hospitalized at the Intensive Neonatal Care Unit (NICU) of the University Hospital of Patras (Greece) from Jan 2015 to Dec 2016. Neonates were excluded if they had chromosomal or congenital anomalies, metabolic syndromes, congenital infections, or serious problems during labor. Data were obtained from the neonates’ dossiers and were demographics (weeks of birth, gender, birth weight, agpar score), findings of the cranial U/S at 3 months, as well as walking ability and ability to perform activities as measured with Denver II scale at the age of 2 years (24 months). Data analysis was performed with Chi-Square test ($\chi^2$).

**Results:** From 193 late preterm neonates, 22 (11 boys) returned for a 24 month follow-up. Twenty one of them had a birth weight of at least 1500gr, and 10 of them had a 1st min agpar score of 5, while the rest a 1st min agpar score over 5. Also, 18 of them had a “normal” U/S, while 4 of them a “not normal” U/S. The results demonstrated a positive “correlation” between the cranial U/S of the late preterm neonates at 3 months and gross motor abilities at the age of 2 years. Abilities related to U/S were "stands on one leg", "uses a bicycle in 3 wheels", "jumps", "speech is understandable", and "is able to walk" (Pearson Chi-Square $> 8.78, p<0.05$). On the contrary, fine motor abilities such as the ability to "make towers of 8 cones", "wash his/her hands" or "dress up without help" were unrelated to whether the U/S was normal or not (table).

**Discussion:** The fact that only 22 neonates returned for the 24 follow up suggests that the majority of these children had probably a good outcome. It is important that most of the abilities measured in this study were related to the cranial U/S at 3 months, since this finding reinforces the cranial U/S as a prognostic tool. Problems arising as the late preterm children grow older may result in limitations in their competence in life (Gkentzi, 2014). This makes important the early identification of problems in late-preterm neonates and an early cranial U/S can help with making decisions for the need of an early intervention or not.

**Conclusions:** The results of the current study suggest that the gross motor abilities at the age of 2 years in late preterm neonates can be probably “predicted” by a cranial U/S at 3 months, but fine motor activities are not.


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