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Effects of deformational plagiocephaly during the first 12 months on the psychomotor development of prematurely born infants

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Aims: The link between deformational plagiocephaly and psychomotor development is a recurrent question in medical publications. Main publications are about term infants but there is a lack of data about impact of deformational plagiocephaly on long term neurodevelopment of premature infants. We try to establish a possible relation between deformational plagiocephaly during the first year of life and the psychomotor score at 4 years in the prematurely born infants. Other risk factors potentially impacting the psychomotor score have been studied.

Material & Methods: A retrospective study of the files of the children followed by the health network "Naître et Devenir Région PACA Ouest Corse Sud" and included in the data base has permitted to select a cohort of 594 prematurely born infants under 33 weeks of gestational age. Those children have been developmentally evaluated during the first year of life and at 4 years by the EVAL Mater test. The "Naitre et Devenir" network is following up the prematurely born under 33 weeks of gestation infants of the West Provence Alpes Côte d'Azur and South Corsica from discharge to 7 years. 170 specially trained pediatricians are developmentally following the infants at term, 3, 6, 9, 12, 18 and 24 months of corrected age and 3, 4 5,6 and 7 years. Data are collected in a specially designed data base.

Results: There is no significative link between deformational plagiocephaly during the first year of age and a pathological psychomotor score at age 4, but some risk factors have been put in evidence: being a boy, born under 28 weeks of gestational age, weighted at birth under 1000 g, having a neuromotor score of Latal et Ferriero equal or more than 2 at 3 months of corrected age and in a lesser manner having a prescription of physiotherapy during the first year.

Conclusion: The researches on deformational plagiocephaly in the full term infant are suggesting a link between deformational plagiocephaly and developmental delay predominantly on the motor side, with an increase rate of special needs services at school age. Now the asking question is whether the deformational plagiocephaly is the origin of the delay or an early sign of special brain condition with an early motor delay in the full term born. Our results suggest that deformational plagiocephaly in the prematurely born infant may not be linked to neurodevelopmental delay but just due to a long time spent in supine position because of the early birth associated to physiological hypotonia and axial extension. Other risk factors like being a boy, born under 28 weeks of gestation, weighing less than 1000 g, a neuromotor score of Latal and Ferriero more than 2 at 3 months of corrected age and having a prescription of physiotherapy during the first year of life are strongly connected to a delayed psychomotor development at age 4.

Biography

Marie Fabre Grenet is a MD Pediatrician, AIX Marseille University France. She is the DEA of Neuropsychology CNRS Marseille France and NBAS Trainer of Brazelton Institute, Boston USA. She is involved in CAMSP Nord and CHU Nord Marseille: prematurely born infants follow up (1997-2016) and prematurely born infants following network Naître et Devenir PACA Ouest Corse Sud Coordination 2006-2016, Marseille 13000 France. She is the Medical Director of CAMSEP 36, Chateauroux 36000 France.

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