

NUTRITION SEROTONIN AND CORTICOGENESIS: A SEROTONERGIC NEUROPATHY

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Early serotonin signalization is present in embryonic cerebral cortex and modulates certain aspects of sensory cortex formation. Human fetuses suffering intrauterine lack of nutrients are prone to have an altered corticogenesis due to metabolic serotonin changes. These subjects show an increase in the serotonin synthesizing path with activation of T5H, together with somatosensory morphological and auditory functional anomalies. Therefore human infants born with low birth weight, secondary to prenatal nutritional stress, show abnormal sensory responses and plasmatic serotonin markers; increased free L-Tryptofan in plasma and decreased N1/P2 evoked cortical responses to auditory or visual stimuli. These biochemical and electrophysiological data may be of clinical relevance in human babies that suffered intrauterine growth restriction due to abnormal availability of nutrients

(Hernández-R et al., 1989 Brain Res. 488:1-13., Manjarrez et al., 2005 J. Pediatrics. 147(5)592-6.)