



## NEURODEVELOPMENTAL DISORDERS IN CHILDREN EXPOSED IN UTERO TO PROGESTIN TREATMENT: STUDY OF A COHORT DE 95 CHILDREN FROM THE HHORAGES ASSOCIATION.

SOYER-GOBILLARD (FR) [1], Paris F (FR) [2], Gaspari L (FR) [3], Courtet P (FR) [4], Daures J (FR) [5], Sultan C (FR)

Prenatal brain develops under influence of endogenous hormonal milieu (fetal, gonadal, adrenal, placental, maternal) + exogenous substances with hormonal activity. Somatic effects of diethylstilbestrol (DES) (genital malformations, infertility, cancers) on children exposed in utero have long been recognized; it is not the case for psychiatric disorders. Animal studies (1) provide persuasive somatic and behavioral data. Psychiatric effects of synthetic estrogens on the brain of children exposed in utero were recently published (2,3). Progestins used in contraception and during menopause in hormone replacement therapy are known to affect the adult brain (4) but no data exists on their effects after in utero exposure of children.

Clinical data were collected from 1,200 families (1,925 children, Association Hhorages \*) using a medical detailed questionnaire. Most families had children exposed to estrogens with or not progestin but 44 mothers (100 children) had at least one child exposed to only progestin. From these 100 children, we removed 5 with somatic disorders only as for boys: 1 Mega bilateral ureter, 1 Unilateral cryptorchidia, 1 Sexual ambiguity; for girls: 2 Hormonal sterility.

Of the 95 children we noted three groups. Group I: 18 first born unexposed children (9 boys+9 girls) free of disorders. Group II: 53 children exposed to synthetic progestin(s). Group III: 24 (13 boys+11 girls) born after a previous exposure free of disorders. Group I+Group III (18+24=42 children) served as intra-familial controls. Of the 53 children in utero exposed to Progestin(s), 7 (5 boys+2 girls=13, 20%) had no disorders and 46 (86,79%) were affected by psychiatric with or not somatic disorders as Schizophrenia: 23 boys+ 4 girls. Bipolarity: 5 boys+10 girls. Behaviour disorders, aggressiveness, eating disorders: 0 boys+4 girls.

Our data show drastic increase of psychiatric disorders among children in utero exposed to progestin(s) (86,79% vs 0% in Group I and III). This result strongly suggests that synthetic progestin treatment during pregnancy may be detrimental for the development of the brain in the offspring.

1. Arabo et al. Dev Brain Res 2005, 156:93–103. 2. Soyer-Gobillard MO et al. Gynecol Endocrinol, 2016, 32, 25-29. 3. Kebir O, Krebs MO. World J Biol Psychiatry, 2012, 13:84–95. 4. Muye Zhu et al. <https://www.theatlantic.com/health/archive/2012/01/how-progestin-a-synthetic-female-hormone-could-affect-the-brain/251299>.

\*Hhorages: Halt to Artificial Hormones for Pregnancies

[1] C.N.R.S., [2] Pédiatrie 1 CHU Montpellier, [3] Pédiatrie 1 CHU Montpellier, [4] Psychiatry CHU Montpellier, [5] Epidemiology Univ Montpellier

FOLLOW US!



@ESGYNECOLOGY

ESGYNECOLOGY.org