

Neurotoxicologic Effects of Intense Impulse Noise on Fetal Brains: Experimental Study

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Aim: Impulse noise causes severe neurological, psychiatric, cardiovascular, immunologic, endocrinologic disorders by causing neuronal injury in the cochlea, hippocampus, cerebral cortex and cerebellum. Occupational noise exposure causes to preterm birth, low birthweight, and malformations. We investigated if there is neuronal damage in brain of siblings of pregnant rats exposed to illegal impulse noise. **Methods:** 3 male and 8 non pregnant female adult rats included. Three rat families were examined as control (A) and two of study groups (B,C). B family were exposed to 85 dB and C family were exposed to 120dB impulse noise at doses of 10×20 min/day in equal time intervals for 1 month. They were followed for 1 month. Delivered animals were separated together with their siblings and followed for 1 month in their personal cages at the normal day-night cyclus. Birth weights of siblings were recorded at every weeks and all female rats and their siblings were sacrificed under general anesthesia. Their brains were examined histopathologically and result were analysed by Mann-Witney U test. **Results:** Seven rats of A family, six rats of B family and four rats of C family delivered between sixth and eighth weeks. The numbers of their living kids 7±2 in A, 5±2 in B and 3±1 in C family. Also, nonliving kid numbers of these families were 1±1, 3±1 and 5±2 consecutively. Body weight values of siblings were lower in B and especially C family. Brain volumes and neuronal densities of the hippocampus and cerebral cortex of the siblings of B to A and C to A&B families were lower. Differences of all parameters were meaningful ($p<0.001$). **Conclusion:** We concluded that intense impulse noise may cause infertility, abortion, low birth weight, neuronal injury, cerebral immaturation and microcerebri. We proposed that pregnant women should be protected from intense impulse noise during pregnancy in order to have healthy babies.

Characterization of Perinatal Mood Disorders

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Introduction: Semiology of mood disorders during the perinatal period remain poorly explored. The objective of this study was to explore clinical features of mood episodes in pregnant or postpartum women, addressed for “perinatal depression” to a specialized team.

Method: The thymic’s characteristics of 110 patients were studied using the MATHyS (Multidimensional Assessment of Thymic States, Henry et al., 2007) assessing both depressive and manic symptoms through five basic dimensions (emotion, cognition, motivation, motor and sensory). This scale also assesses the presence of mixed features of mood episodes. An assessment of depressive symptoms was also performed using the EPDS (Edinburgh postnatal Depression Scale,

Cox et al., 1987), with a cut-off of 12. Analysis using hierarchical clustering on means scores obtained on each dimension of MATHyS by each subjects and means comparisons were performed.

Results: Analysis showed 4 distinct clinical profiles: “adjustment disorders” ($N=56$), “depressed” ($N=24$), ‘hypomania’ ($N=6$) and “depression with mixed features” ($N=24$). The different groups differ regarding intensity of depressive symptoms despite the presence characteristics of mixed states even hypomania in some of the women. We do not find any influence of perinatal status (pregnancy or postpartum).

Conclusion: The existence of different mood profiles suggest a clinical heterogeneity of “perinatal depression” and especially the existence of mixed states or hypomania.

Mother-Baby Attachment and Perinatal Depression

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Aims: About 10–15 % of women experience depressive symptoms during perinatal period: only a small percentage of cases are identified and treated, with negative consequences on development of the baby and on the mother-baby relationship. We compared two samples of women: the first recruited at the first month of pregnancy, and the second at the first month postpartum. Both groups were followed up to 1 year postpartum. The aim was to investigate risk factors of affective disorders in perinatal period, and the impact of depressive and anxiety symptoms on maternal attachment.

Methods: Edinburgh Postnatal Depression Scale (EPDS), State-Trait Anxiety Inventory (STAI), Postpartum Depression Predictors Inventory-Revised (PDPI-R), Structured Clinical Interview for the Diagnosis of Axis I Psychiatric Disorders (SCID-I) and Maternal Antenatal and Postnatal Attachment Scale (MAAS, MPAS) were administered.

Results: 271 women recruited at the first month of pregnancy and 130 women recruited at the first month postpartum were compared at the first month postpartum. Postpartum data revealed that women enrolled during postpartum showed more vulnerability to risk factors respect to women enrolled in pregnancy, and had the worst attachment. Women enrolled in pregnancy period seem to perceive more partner, familiar and friend support, with lower difficulties in baby’s health, temperament and sleep.

Conclusions: Early screening can allow to identify women at risk to develop psychopathology, improving the possibility of management and treatment with positive consequences on the baby’s development and the mother-baby relationship.

Internet Forum Discussion for Mothers (Maman-Blues Association)

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