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DIRECT EVIDENCE OF VIRAL INFECTION AND MITOCHONDRIAL ALTERATIONS IN THE BRAIN OF FETUSES AT HIGH RISK FOR SCHIZOPHRENIA

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Background: There are increasing evidences that favour the prenatal beginning of schizophrenia. These evidences point toward intra-uterine environmental factors that act specifically during the second pregnancy trimester producing a direct damage of the brain of the fetus. The current available technology restricts the observation of the mechanisms at cellular level since the human brain is not exposed to a direct analysis in that stage of the life in subjects at high risk of developing schizophrenia.

Methods: In 1977 we began a direct electron microscopic research of the brain of fetuses at high risk from schizophrenic mothers in order to find the differences at cellular level in relation to controls.

Results: In these studies we have observed the presence of complete and incomplete viral particles within the nuclei of neurons that reacted positively with antibodies of herpes simplex hominis type I [HSV1] virus, and mitochondria alterations.

Conclusion: The importance of these findings can have practical applications in the prevention of the illness, its direct relation to the aetiology and physiopathology of schizophrenia. A study of amniotic fluid cells in women at risk of having a schizophrenic offspring is considered. On being observed the same alterations, those observed previously in the cells of the brain of the studied foetuses, it would intend these women in risk of having a schizophrenia descendant. Therefore, previous information of the results, the voluntary medical interruption of the pregnancy or an early anti HSV1 viral treatment are the preventive measures of the later development of the illness.

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