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Role of microchimeric cells in pathogenesis of multiple sclerosis

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Background: Multiple sclerosis (MS) is a chronic neuroinflammatory disease of central nervous system (CNS). Although the exact etiology of MS in not fully known, it has been shown that an interaction of environmental and genetic factors are involved. During pregnancy maternal and fetal cells commute back and forth leading to fetal microchimerism in the mother and maternal microchimerism in the child that can persist for years and contribute in pathogenesis of autoimmune diseases. Thus, in this study we aimed to measure levels of micro- chimeric cells in blood of MS patients.

Methods: In a case control study, blood was collected from women with diagnosis of definite MS (n = 40) and healthy women as control group (n = 40). DNA was extracted and microchimeric cell level measurement was performed using quantitive Real-Time PCR.

Results: Microchimeric cell level in MS patients was significantly higher than control subjects (p?0.05).
Conclusions: Our results suggested that microchimeric cells have a role in pathogenesis of MS although, further evidence will be required to establish this cells as a modifier in the risk of MS.