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Psychoendocrinology (Thyroid Hormone) and Early Psychosis: Preliminary Findings

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Psychoendocrinology (Thyroid Hormone) and Early Psychosis: Preliminary Findings

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**Background**

Environmental factors are acknowledged as key determinants of development of schizophrenia. Studies suggest that the altered expression of genes and proteins involved in numerous neurodevelopmental, metabolic, and neurotransmitter pathways can result in maladaptive networks of motoric, thought, and synthesizing functions. Environmental stressors do influence the final common pathway in neurotransmitter dysfunction.

Thyroid hormone is a possible link between genes and environment. Its dysfunction is known during antipsychotic treatment, malignant neoplastic syndrome, treatment resistant and chronic schizophrenia. It is regulated by HPA axis, which is widely implicated in endocrinal abnormality in psychosis. Molecular and genetic studies suggest that thyroid hormone receptor is necessary to mediate developmental effect of thyroid hormone.

**Thyroid in schizophrenia**

Known for more than 100 years [Kraepelin 1898, Bleuler 1954 & Geisinger 1974], thyroid hormones have been reported in schizophrenia. Treatment with antipsychotics drugs also decrease thyroid levels. (Baumgartner, 1988; Riniers, 1984)

Increased, decreased and normal baseline TSH with antipsychotic therapy and unchanged TSH induced TSH response to antipsychotics have also been reported. Thyroid extract was widely used [Bleuler 1954; Brauchitsch 1961; Gjessing 1974]. Thyroid antibodies have been reported in schizophrenia. Hypothalamic-pituitary-thyroid [HPT] axis may beneficially modify course of the illness [Morley & Shafer 1982; Prange et al 1979; Spratt et al 1990…].

**Method**

This is a cross-sectional pilot study of early psychosis in a natualistic setting. Patients were selected from admitting unit and early intervention of psychosis program in RMHC St. Thomas.

Hypothesis was that low level of TSH and high levels of T3 is associated with positive symptoms of psychosis. Patients were selected from admitting unit and early intervention of psychosis program in RMHC St. Thomas.

**Results**

Correlations between subscales of the PANSS and family history of psychosis were examined using SPSS.

**Conclusions**

A significant positive correlation with negative symptoms indicates that hypothyroid state may be a symptom concomitant explaining co-existence of depressive and negative symptoms in some patients at least. This likely has implications for psychiatric management in both the short and long term.

**References**


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