

Study of some biochemical and genetic aspects of schizophrenic disorders

Suffar, Ahmad M.

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The present study was carried out on 144 subjects classified into normal control group free of any psychiatric manifestation and schizophrenic patients group. Assessment of the changes in neurotransmitters metabolism was tested, e.g. That of catecholamine and acetylcholine by determination of the activity of the enzymes involved in its catabolism, e.g. MAO, COMT and AChE either by fluorimetric method or colorimetric method. The results indicated a highly significant reduction in platelets MAO activity among schizophrenic patients than control group. Concerning the COMT activity, there was no statistical significant difference between controls and patients group. Assessment of AChE activity indicated a significant reduction in patients group. The changes in cholinergic activity in relation to that catecholamine may play a role in the explanations of schizophrenic dysfunction. The genetic contribution was conducted by phenotyping of group specific component (Gc) and phosphoglucomutase 1 (PGM1) using isoelectrofocusing techniques. In the present study, analyzing the distribution of different Gc genotypes among controls and schizophrenic groups demonstrated the increase of Gc 2-1 genotype frequency among schizophrenics with a relative risk factor of $RR = 2.56$. There was a significant difference in distribution of PGM 11+1+ between normal control group and schizophrenic group. No correlation could be detected between MAO, COMT, AChE enzyme activity and Gc genotypes or PGM1 phenotypes.