Clinical utility of biomarkers of the hand in the diagnosis of schizophrenia

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ABSTRACT

A number of biomarkers were assessed in photos and prints of the hands of 95 patients with a variety of mental disorders to determine whether patients with schizophrenia could be distinguished from the others. Patients were recruited as consecutive admissions from an outpatient psychiatric day hospital population. Fourteen patients were diagnosed with schizophrenia/schizoaffective disorder and 81 were diagnosed with other mental disorders. A discriminant analysis yielded an overall 80% correct classification, with a sensitivity (schizophrenia patients identified correctly) of 78.6% and a specificity (non-schizophrenia patients identified correctly) of 80.2%. Significant differences were noted in the proximal interphalangeal joint, eponychium of the middle digit and fingernails. To determine biomarker frequency distribution patients with bipolar disorder were then compared to those with schizophrenia/schizoaffective disorder and then to patients with PTSD. The former yielded an overall 78.6% correct classification, with a sensitivity of 71.4% and a specificity of 85.7% and with similar biomarker frequency distribution for bipolar disorder as for the entire non schizophrenia group. The latter comparison yielded an overall 58.6% correct classification, with no significant differences between the features. The application of these biomarkers in clinical practice could constitute an additional tool for the psychiatrist in cases lacking diagnostic clarity.