
CAN EYE MOVEMENTS BE USED AS A MARKER FOR MAJOR DEPRESSION?

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No externally validated tests are available for routine use to confirm clinical diagnosis of major psychiatric disorders. Eye movement abnormalities that distinguish schizophrenia and bipolar disorder have only recently been described. Evidence of oculomotor dysfunction specific to endogenous major depressive disorder (MDD) would represent discovery of a significant endophenotypic interface between psychotic and affective disorders. Out-patients meeting DSM criteria for MDD (n=68, F:M=40:28, median age=49 (IQR 38-57) years) participated in a series of tasks while eye movements were recorded using an EyeLink 1000 infra-red video tracker. Patients' characteristics at time of assessment included median illness duration of 13 years (IQR= 7-23; n=53 available cases), HADS anxiety=11 (IQR 7-15) and depression=9 (IQR 4-11), BDI=27 (IQR 16-33), BPRS= 25 (IQR 20-29) and estimated IQ= 106 (IQR 96-118; n=42). Performance measures from smooth pursuit, picture viewing, and steady fixation were analysed alongside data from controls, schizophrenia, and bipolar disorder cases. A neural network was able to delineate the clinical and control groups with sensitivity=90.4% and specificity=97.1%. Multivariate tests of group differences *post hoc* revealed that MDD cases were on average poorest in maintaining steady gaze during the fixation task, mirroring the neuropsychological evidence for dysregulation of executive function in prefrontal brain regions. Bipolar and unipolar affective cases performed similarly on smooth pursuit and picture viewing tests, but were systematically different from schizophrenia and control groups. If differences are replicated in further cases, the MDD eye movement marker could be an important tool for psychiatric research, allowing for easier delineation of the major disorders.