

Poster presentation

Evolutionary neural circuits and their relevance in current psychiatry: “are we still connected with the Cosmos”

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Background

Human brain has evolved into complex network of neural circuits because of its interaction with the physical environment, social cognition and adaptive interpersonal behavior. While some researchers talk about influence of environmental variables on mental illness others talk of implications for the reclassification of DSM-V based on the neural-circuitary traits.

Objective

The aim of this paper is to (1) present a short review of literature on the various evolutionary neural circuits and their clinical significance (2) examine the influence of environmental/geophysical variables on outpatient (OP) attendance, a proxy variable for onset of mental illness.

Materials and methods

A literature search was conducted within the Pubmed/Medline to identify articles on neuro-evolutionary circuits and geophysical variables and their influence on psychiatric disorders. Clinical case records of 30,195 OP attendance between 1990 and 2001 (corresponding to the last sun spot cycle) were reviewed to identify drug naive, acute onset, psychiatric episodes. Diagnoses of interest, non-affective psychoses, mania, depression and minor mental disorders (MMD), were tested for an association with various geophysical variables including radiofrequency radiations (RFR) and geomagnetic activity (GMA); a function of charged particles of solar radio flux.

Results

A total of 17.9% of our sample met the inclusion criteria and grouped into various diagnoses. The variable most significantly ($p < 0.05$) associated was solar radio flux (RFR) below 800 MHz which affected all the diagnostic

groups. Spectral analysis showed an inverse trend between the psychiatric OP attendances and the radio frequency radiations. Graphically the RFR wave and depression/psychosis waves rise and fall at least twice in a year. Peak attendances of depression and psychoses graphs follow the RFR peaks by about a month. Significant relationships notwithstanding, the percentages of variance accounted for by different geophysical variables were very small.

Conclusions

Notwithstanding a bipolar connection several psychiatric disorders, including personality disorders have a cyclical or episodic pattern probably because of the resonance between the evolutionary neural circuits and the cyclical activity of geophysical variables such as RFR. As the solar dust begins to settle, it is perhaps pertinent to ask whether the human brain resonate with the cosmos, is this philosophical thought worth pursuing, if so, in what way does it help in bridging the organic-functional divide or whether newer and alternative strategies needed to understand this ‘chaos’.

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