

Rare variants in neurotrophin receptor substrates are potential risk alleles in the etiology of schizophrenia

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Impaired signal transduction pathways are considered to contribute to the etiology of schizophrenia. However, components of trophic factor signaling have not been considered even though neurotrophins such as BDNF are crucially involved in neurodevelopment and synaptic connectivity. Here we describe new de novo mis-sense mutations in ARMS/Kidins220 and TRIO genes in exome sequencing a cohort of unrelated and ethnically diverse schizophrenia-affected subjects. The two genes gave the highest genetic burden among the neurotrophin pathway genes and are highly expressed in cortex and hippocampus. These two genes are of particular interest since they are downstream of BDNF and are involved in spine formation, synaptic plasticity and dendrite formation and growth cone collapse. The ARMS/Kidins220 protein is tyrosine phosphorylated by Trk and ephrin receptors and not by other growth factor receptors. TRIO is a scaffold protein, which associates with ARMS/Kidins220 and forms a ternary complex with SorCS2 and p75, which leads to growth cone collapse. Hence, this exome analysis suggested that the two scaffold proteins, ARMS/Kidins220 and TRIO, act in the neurotrophin pathway to regulate morphological changes.

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A question of preventative care in psychiatric ward: Initial therapeutic alliance between nurse and incidence of violent behavior among psychiatric inpatients

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Aim & Background: A study to find out the possibility of prevention of aggressive acting out behavior of patients admitted in Acute Psychiatric unit and correlate it with the initial therapeutic alliance with health care team members was conducted in a tertiary care teaching hospital at New Delhi.

Patients & Methods: Hundred patients consecutively admitted to the psychiatric ward during six months, were assessed by two tools; helping alliance questionnaire (HAQ-II) for quality of initial therapeutic alliance and Overt Aggression Scale (OAS) to record the violent incidents.

Results: Twenty six patients exhibited violence during their first week of hospital stay. In all 38 violent incidents were reported during 700 patient days and the rate of violent incidents was 5.3%. The mean therapeutic alliance score of patients who were violent (65.42 ± 24.10 ; $n=26$) was significantly lower than that of patients who were non-violent (82.88 ± 16.71 ; $n=74$) during hospital stay. The low quality of initial therapeutic alliance and high risk of acting out violent behavior of patients during the first week of hospitalization was found. The model resulting from the binary logistic regression revealed that the therapeutic alliance ($OR=0.961$, $p=0.006$) and pre-admission violence ($OR=10.8$, $p=0.001$) were predictors of violent behavior even when other variables were controlled. The findings stress the importance of a good therapeutic alliance which is a modifiable factor to prevent violent behavior of the patient admitted in a psychiatric inpatient unit.

Conclusion: If health care team members take utmost care to develop therapeutic alliance in the initial period itself the acting out behavior of patients can be prevented.

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