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Demographics and Real World Healthcare Cost and Utilization for Patients With Probable Tardive Dyskinesia

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ABSTRACT: Background: Tardive dyskinesia (TD) is a movement disorder associated with prolonged exposure to antipsychotics. The current study was designed to describe demographics and comorbidities for patients with a dyskinesia diagnosis as probable TD (cohort 1), patients likely to have undiagnosed/uncoded TD (cohort 2), and a control population.

METHODS: This retrospective study analyzed Medicaid claims data from July 2013-March 2017. For a pool of patients with a history of 3 months or more of taking an antipsychotic, three cohorts were evaluated: cohort 1 (ICD-9/10 codes for dyskinesia); cohort 2 (propensity score matching to cohort 1); and cohort 3 (patients withschizophrenia, major depressive disorder [MDD], and/or bipolar disorder [BD] and history of ≤2 antipsychotic medications). Outcomes included patient characteristics, Charlson Comorbity Index (CCI) and healthcare utilization (pre-and post [12-month] period).

RESULTS: Cohort sizes and characteristics were: cohort 1 (n = 1,887; female, 68%; mean age, 42 years; MDD, 17%; BD, 48%); cohort 2 (n = 1,572; female, 58%; mean age, 39 years; MDD, 22%; BD, 48%); cohort 3 (n = 25,949; female, 67%; mean age, 40 years; MDD, 11%; BD, 49%). Cohorts 1 and 2 had higher comorbidity burden than cohort 3 (mean pre-index CCIs: 0.68, 0.79, and 0.47, respectively; $p < 0.001$ for each cohort). After 12 months, mean per member per year healthcare costs were higher in cohort 1 and2 compared to cohort 3 ($21,293, $18,988, and $11,522, respectively), as were mean claims per member per year (185, 138, and 109, respectively).

CONCLUSION: In the study population, patients likely suffering from TD, ICD-9/10 code-confirmed or unconfirmed, have a higher overall comorbidity burden and healthcareutilization than those who probably do not have TD.

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Refraction Focus Hallucination: The Role of Increased Excitation at Thalamus in Complex Visual Hallucination

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ABSTRACT: Study Objective(s): The pathogenesis of complex visual hallucination in patients without visual lesions, appearing with eyes open and resolving with eyes closed, has been described to be associated with increased excitation at the lateral geniculate nucleus (LGN) and pulvinar of the thalamus (Winton-Brown, 2016). This reduces thefidelity of retinogeniculate transmissions and enhances aberrant projections to the visual cortex. Loss of the central sensory filtering function of the pulvinar increases "signal to noise ratio" in visual transmission. While visual hallucinations have been reported to disappear on eye closure (Manford, 1998), visual aberration with correction with refraction-followed by focusing on actual visual images and visual hallucinations has not heretofore been reported. Such a case is presented.

METHOD: Case study: This 28-year-old, myopic, right-handed man, at 5 years of age began hallucinating vivid images of people. The visual hallucinations were triggered only with his eye open. He was myopic and without visual correction, his visual sphere would be blurred. The visual hallucinations were also blurred without visual correction. With refraction, the hallucinations became clearly in focus. He would close his eyes and the visual hallucinations disappeared but would reappear in the same position upon opening his eyes. For over 20 years, he experienced about 100 hallucinations a day. Electroencephalography (EEG) revealed continuous spikes and slow waves in bilateral temporal lobes, consistent with temporal lobe status epilepticus. After treatment with diphenylhydantoin the frequency and duration of the hallucinations markedly decreased to a second epoch every other day. However, the characteristic of the hallucinations remained the same (people).

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RESULTS: This phenomenon may involve epilepsy induced excitation of the thalamus. This then acts to reduce the fidelity of retinogeniculate transmission and increase "signal to noise ratio" in visual transmission. This may contribute to complex visual hallucinations with eyes open. The hallucinated figures becoming clearer with eyeglasses provides support that this complex hallucination arises in the pathway from retina-LGN-cortex, not from stored visual associated cortex of top-down cortical release.

CONCLUSIONS: Given the above, those with visual hallucinations should be queried as to the influence of refraction on the clarity of hallucination.

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Fragile X Syndrome Sharing Similar Neural Network Abnormalities as ADHD

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ABSTRACT: Title: Fragile X syndrome sharing similar neural network abnormalities as ADHD

STUDY OBJECTIVE(S): The Fragile X syndrome (FXS) phenotype typically involves a variety of psychiatric symptoms, including features of autism, attention deficit/hyperactivity disorder (ADHD), anxiety, and aggression. Studies have shown that ADHD is characterized by multiple functional and structural neural network abnormalities including fronto-striatal, fronto-parieto-temporal, fronto-cerebellar and fronto-limbic networks (Rubia, 2014; Norman, 2017). Studies have shown that ADHD is characterized by a delay in structural brain maturation (Rubia, 2007). Absence of the FMR1 gene product Fragile X mental retardation protein (FMRP) results in FXS, an inherited form of mental retardation. FMRP is an RNA binding protein functioning as a nucleocytoplasmic shuttling. In a knockout mouse model of FXS (Fmr1 null), Qin, et al showed regionally selective effects on cerebral metabolic rates for glucose (rCMRglc) (Qin, 2002) and rates of cerebral protein synthesis (Qin, 2005). In the present study, we asked if there is a relationship between brain regions most vulnerable to the effects of the absence of FMRP in the Fmr1 null mouse, and if the distribution consistent with the structural and functional brain abnormalities in ADHD. We also asked if there is a difference between males and females in the regional distributions and the levels of the FXR mRNAs.

METHOD: We used 35S-labeled probes specific for the mRNAs to perform in situ hybridization on brains from male (n = 4) and female (n = 4) mice at 6 months of age. Flowing hybridization, brain sections were exposed to X-ray film and optical density were measured in nine brain regions on autoradiograms of sections hybridized to the probe.

RESULTS: The highest levels of expression we observed were in the cerebellum, granular layers of the hippocampus. Levels of expression were also high in CA1 pyramidal neurons of hippocampus, amygdala and granule layer of olfactory bulb. We found intermediate levels in the anterior hypothalamus and in cingulate and frontal cortex. Low levels of expression were found in thalamus and caudate. The distribution for the probe was similar in male and female mice, but we found a tendency for male mice to have higher levels than females.

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Enhancing Emotional Wellness With Smartphone Apps in Early Psychosis

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ABSTRACT: Introduction: There is wide consensus that the combination of psychopharmacology and psychotherapy is superior to either approach used alone, in managing depressive, anxiety and psychotic disorders. Completing homework assignments are prerequisite for successful outcomes in psychotherapy. The convergence of digital computer technology and consumer self-empowerment have generated a bewildering array of mental health applications for smartphones and other mobile devices. The purpose of the present poster is to review available apps of interest for patients with early psychosis.

METHOD: A search was recently conducted of the stores on the iOS and Android platforms, seeking apps for mood, anxiety, psychotic and cognitive disorders. Reviews of digital technology resources provided by the International Mental Health Research Organization (IMHRO) at www.psyberguide.org were consulted. Criteria for inclusion included: (1) popularity measured by greater

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