

Results. Our final analysis included 7881 patients consisting of male (n=4962) and female (n=2919) patients among different racial demographics. Race was consolidated into the following groups: Asian (n=949), Black (n=1692), Hispanic (n=3), Southeast Asian (n=17), White (n=4769), and other (n=343) based on patient self-identification on the YODA datasets. A chi-square test revealed that there is a statistically significant association between patient sex and AOD ($\chi^2=295.61$, $df=68$, $p < 0.0001$). By proxy, this likely means that sex affects age of onset (AOS) as well. Our linear regression output with sex as a predictor of AOD revealed that only the male variable was found to have a statistically significant relationship ($p < 0.0001$) with AOD and resulted in a lower AOD. Histograms generated with the frequency of occurrences against AOD for both male and female patients appeared to be unimodally distributed and skewed right. However, the AOD for female and male patients were found to be 28.79 and 25.44 years old, respectively. This demonstrates that while both male and female AOD are distributed unimodally, there are slight differences in their distributions.

Conclusion. Our analysis differs from previous studies and finds that AOD for male and female patients are seen in a unimodal distribution as compared to previous literature that shows a bimodal and trimodal distribution. Our findings not only call for a re-evaluation of previous epidemiological understandings of AOD but may support future efforts in understanding the origins and typical clinical presentations of patients with newly developed symptomatology of schizophrenia as well as support clinicians' perspectives as part of clarifying differential diagnoses. Further studies can also continue to evaluate possible correlations among different races.

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Thanatotic Infestation: Ekbom's Syndrome as an Exordium to Cotard's Delusion

Ahmed A. Chaudhry¹ and Jack W. Hirsch²

¹Windsor University School of Medicine, St. Kitts, West Indies and ²Ross University School of Medicine, Bridgetown, Barbados

Abstract

Introduction. Ekbom's delusion as a prelude to Cotard's syndrome, has not heretofore been described.

Methods. Case study: A 45-year-old woman with a past diagnosis of bipolar disorder with psychotic features was admitted, having been up all night conversing with spirits, proclaiming that she had made a deal with Satan. Convinced that her grandmother was possessed by the devil, she smashed her grandmother's head with a two-by-four. **Results:** Mental Status Examination: self conversing with her eyes darting around the room. Poor hygiene. Behavior: guarded and withdrawn. Oriented x2. Speech: hyperverbal. Insight and judgment: poor. Mood: hostile, aggressive, and angry. Thought process disorganized, incongruent, and tangentiality. She was convinced she was infested with little black bugs crawling around her insides which had been placed there by the devil. After two days of

olanzapine she reported the bugs were no longer present, but rather that she herself was dead and that her organs were decomposing, which persisted through the remainder of the hospitalization.

Discussion. Neuroimaging abnormalities in Ekbom's syndrome involve the striatum, basal ganglia (putamen and caudate nucleus), insular and cingulate cortices, cortex (prefrontal, right parietal, and temporal lobes), right lingual and orbitofrontal gyri, and thalamus. In Cotard's syndrome, abnormalities have been identified in the striatum, frontal and temporal lobes, and right-sided and bilateral hemispheres. An overlap between the delusions exists in the striatum, inferior parietal, and temporal lobes. A single lesion in the nondominant inferior parietal lobe may cause both syndromes, due to its substantial interconnection with the temporo-limbic areas. Since the parietal lobe is also involved in somatosensory processing, peradventure distorted sensory perception with associated sensation of formication may have been the nidus for the delusional infestation as well as a nidus for the perception of thanatos habitus. Such misperception may have then been amplified into a delusion because of a hyperconnection between the parietal lobe and the limbic system. This may represent a variant of the two-factor hypothesis of delusions whereby a distorted sensory perception is then misrepresented in a delusion. Dysfunction of the right hemisphere, which normally acts to censor the left, allows the delusion to manifest. A single lesion of the inferior parietal lobule may be sufficient for both sensory distortions and loss of inhibition of delusional interpretation of distorted sensation by the frontal lobe, yclept the sensorialist hypothesis.

Conclusion. In those with monothematic delusions, the search for transient fluctuation in delusional states may be revealing.

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Psychomotor Side Effects of Carbamazepine in an Elderly Patient With Bipolar Disorder and Cognitive Impairment

Alejandro Compaired, MD and Javier Torres, MD

Ramón y Cajal Universitario Hospital, Madrid, Spain

Abstract

Introduction. The management of elderly bipolar patients can become very complex due to higher prevalence of medical comorbidities and sensitivity to treatment-related adverse effects. One of the antiepileptic drugs used for their treatment, carbamazepine, has had a number of cognitive and psychomotor effects linked to it: deterioration in measures of information processing speed, and attention and faster motor skills after discontinuation, among others. The literature concerning them is quite sparse.

Methodology. We report the case of a 75-year-old woman with bipolar disorder and unspecified cognitive impairment who was brought to the emergency department by her family due to global functional decline dating 3 weeks back.

Results. The patient had been diagnosed and in treatment with bipolar disorder for 40 years. About 2 months before the current

episode, because of the presence of tremor and family reports of marked functional decline (from being independent for daily life activities to being bound to a wheelchair and with worsening cognitive symptoms), the psychiatrist opted for a gradual switch from valproate to carbamazepine. During our interview, her husband pointed to the complete dose of 100 mg of carbamazepine 3 weeks ago as the onset of her current symptoms. The patient demonstrated clear psychomotor inhibition, with an absence of spontaneous movement and sporadic, almost monosyllabic, responses to only the simplest questions. Although aware that she was in a hospital, she could not recall its name and was completely disoriented in regards to time. Barely capable of emoting with her facial muscles, she denied feeling depressed and only acknowledged a stomachache. After spending the night in observation, and the suspension of carbamazepine, the patient experienced an improvement of her cognitive functions: although still not fully oriented in space and time, she could now speak in sentences and answer most of our questions. Even though she still maintained not being depressed, when pressed about any weird sensations she admitted to the feeling of being dead inside. The decision was made to transfer her to the psychogeriatric hospitalization unit.

Discussion. The initial assessment of the patient was complicated due to a variety of factors. Beyond the physical comorbidities, the psychomotor inhibition impeded a thorough examination of her emotional state. Only the suppression of her evening dose of carbamazepine allowed for the diagnosis of Cotard-like major depressive symptoms. Even though the cognitive impairment was apparent before, the state of the patient was markedly improved with just the removal of carbamazepine and was confirmed by her family to be a lot closer to her base state of more than a month ago.

Conclusion. The use of anticonvulsant therapy in elderly bipolar patients with cognitive impairment can have important side effects. Further evidence of the prevalence and specific nature and frequency of its side effects is needed.

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Pure Verbal Autopalinacousis

Alisa Trinh, MD and Alan Hirsch, MD

Smell and Taste Treatment and Research Foundation, Chicago, IL, USA

Abstract

Introduction. Palinacousis, the phenomenon in which sounds are internally perseverated or repeated has not heretofore been reported occurring exclusively to an individual's own voice.

Methods. A 52-year-old woman started to experience auditory hallucinations of her voice at 3 years old when she began talking out loud. The auditory hallucinations of her own voice, yclept autopalinacousis, consisting of one to three words, were affectively neutral, rarely disruptive, and unchanged by psychiatric medications. During these palinacoustic phenomena, she would hear the last few words she had spoken out loud repeat inside her head in both ears. When the autopalinacousis occurred, the words were repeated just once. Sound quality was an exact replication of how it was originally spoken. She only experienced the palinacousis to her own voice and never to any other sounds. For the palinacousis to occur, she had to verbally state the words loud

enough for her to hear. If she spoke out loud but could not hear her own voice, via occlusion of her external auditory canal or presence of loud noise, the internal auditory repetition would not occur. However, after the auditory stimulus was sensed, nothing could reduce the palinacousis. The palinacousis could occur if she read out loud, but not if she read silently. The frequency of the autopalinacousis ranged from a few times a week to several times a day and was associated with reduced sleep, but unaffected by mood, psychiatric medications, or headaches. Five months prior to her psychiatric hospitalization, she began to experience paranoid delusions, decreased sleep, increased activity, rapid speech, and auditory hallucinations of one male and two female voices. In contrast to autopalinacousis, these auditory hallucinations consisted of full phrases or sentences, were affectively charged, intrusive, and diminished by psychiatric medications. No palinacousis occurred with the hallucinated voices.

Results. Abnormalities: Mental Status Examination: Speech: pressured. Oriented x2. Memory: ability to remember 5 digits forwards and 2 digits backwards. She is not able to spell with word "world." Calculation ability: poor. MRI of brain with and without contrast: normal.

Discussion. In cases where patients with psychotic illness experience palinacousis, the palinacousis always appear after the psychotic illness has already manifested, anywhere from less than a year to 15 years later. Our patient's palinacousis presented almost 5 decades before the onset of her auditory hallucinations and paranoid delusions. Furthermore, her palinacousis only occurred to her own spoken voice and never to any other voices. In those who present with auditory hallucinations, query as to the presence and characteristics of palinacousis is warranted.

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STARS Adjunct Trial: Evidence for the Effectiveness of a Digital Therapeutic as Adjunct to Treatment With Medication in Pediatric ADHD

Amanda Maple, PhD, Lisa Palko, PharmD, Elena Cañadas, PhD and Anil Jina, MD

Akili Interactive, Boston, MA, USA

Abstract

Background. Treatment of attention deficit hyperactivity disorder (ADHD) includes pharmacological and non-pharmacological interventions, both of which have demonstrated short-term efficacy. While efficacious, there are limitations to both modalities of treatment. Due partly to these limitations, there has been considerable interest in additional approaches to augmenting ADHD management. Digital therapeutics may offer improved access, minimal side effects, and low potential for abuse, while providing targeted treatment options for improving cognitive functions such as attention. AKL-T01 (EndeavorRx®) is the first and only FDA-cleared