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MANAGEMENT OF DEPRESSION IN ALS WITH THE USE OF METHYLPHENIDATE AND SERTRALINE

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LATE ONSET PSYCHOSIS AND GRAVE'S DISEASE: A CASE REPORT

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Introduction: Prevalence of late life psychosis is 23%, however 60% of new onset psychosis in older individuals are of secondary etiology (Cohen, 2015). Psychosis in the elderly individuals could be primarily due to Very Late Onset Schizophrenia Like Psychosis (VLOSLP) vs secondary causes (Delirium, Dementia, Drugs/illicit substances/toxin, Medical conditions including autoimmune conditions.) The apparent link between autoimmune disorders and psychotic disorders has received increased interest in the last decades (Benros, 2019). A significant positive association was observed for pernicious anemia (OR = 1.91; 95% CI, 1.29−2.84), pemphigoid (OR = 1.90; 95% CI, 1.62− 2.24), psoriasis (OR = 1.70; 95% CI, 1.51−1.91), celiac disease (OR = 1.53; 95% CI, 1.12−2.10), and Graves' disease (OR = 1.33; 95% CI, 1.03−1.72) (Cullen, 2019). In this poster, we are presenting a case of a patient with Grave's disease presenting with first episode of psychosis at late age.

Methods: Elmhurst Hospital Center (EHC) is uniquely placed 545 bedded Hospital having 6 psychiatric inpatient units. We are presenting a case of a patient who was admitted in one of the psychiatric inpatient units. We reviewed studies and reviews over the past 10 years using PubMed, Medline and Google Scholar. Search terms included "psychosis", "autoimmune psychosis", "grave's disease" "autoimmune disorders" "very late onset psychosis" "geriatric psychosis". We reviewed available literature with regards to first episode of psychosis in old age and psychosis in autoimmune disorders specially Grave's disease.

Results: Stratified analyses revealed that not only is there increased comorbidity between NNAI (Non-Neurological Autoimmune) disorders and psychosis, but also NNAI disorders increase the risk for subsequent psychosis and vice versa (Alexis E. Cullen, 2019). Graves' disease which is the most common cause of hyperthyroidism, is also known to be linked to neuropsychiatric issues, and some even present with psychotic disorders (Benros, 2019). A German study found that in a cohort of 100 patients with a schizophreniform illness, 19 had increased antithyroid autoantibodies in sera, and 13 showed signs of intrathecal synthesis hereof (Endres D, 2017). Multiple factors have been suggested to underlie the observed association between NNAI disorders and psychosis, including inflammation, shared genetic vulnerability, predisposing infections, and brain-reactive antibodies (Benros ME, 2014). Along with the abovementioned possible mechanisms, in Grave's disease or hyperthyroidism, adrenergic hyperactivity is hypothesized to be a major cause of psychiatric symptoms (Bunevic?ius, 2010). Our patient's psychotic presentation substantially subsided as pharmacological interventions were taken for both hyperthyroidism and psychotic symptoms. While there have been gradually increasing literature on the association between autoimmune disorder such as Grave's disease and psychosis, there is limited work on the treatment recommendations and prognosis.

Conclusions: Our case is an example of psychosis of secondary etiology (due to autoimmune condition). Research on the field of psychoimmunology is gradually evolving. Most of the available literature is on the possible mechanisms of the association between autoimmune disorders including Grave's disease and psychosis. When patients present with first episode of psychosis at late age, a thorough evaluation and examination are required to rule out possible underlying medical etiologies. Similarly, when patients are diagnosed with Grave's disease and other autoimmune disorders, careful longitudinal monitoring is warranted for the early signs of psychosis. Further expansion of studies is required for targeted treatment recommendations and overall prognosis in such cases.

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MANAGEMENT OF DEPRESSION IN ALS WITH THE USE OF METHYLPHENIDATE AND SERTRALINE

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Introduction: Amyotrophic lateral sclerosis (ALS) is now a well-known disease that was first described by Charcot in the 19th century. It is a relentlessly progressive neurodegenerative disorder, with voluntary muscle action progressively affected, people may experience muscle weakness, disability, and eventually death. The loss of motor neurons results in the primary clinical symptoms and produces impairment affecting limb, bulbar, axial, and respiratory function. The focus of research and treatment has been on the loss of motor neurons, but equally debilitating and associated problems with ALS include mood alterations such as depression and anxiety. Initial depression has been associated with shorter survival time. Quality of life appears to be more dependent on psychological factors such as depression and hopelessness being common in ALS patients.

Methods: Quality of life can be improved with treatment of depression in ALS patients, however, there are no controlled trials supporting certain pharmacological treatments. One patient we describe here has been diagnosed with ALS without prior depressive symptoms until diagnosis. Patient was tried on citalopram and wellbutrin combination without much clinical resonse. At this time, referral was made to the psychiatric clinic and patient had already been started on methylphenidate treatment alone without additional SSRI. We describe our algoritihm into finding the patient and his family the treatment that was most responsive for him.

Results: Combination treatments with SSRI and methylphenidate has demonstrated enhanced clinical response in mood, well-being, higher rate of remission, and enhancement in cognitive functioning in the geriatric population. Here, we used combination treatment of methylphenidate with sertraline and observed benefcal response including improvements in mood, anxiety, motivation, apathy, energy, and concentration.

Conclusions: To the best of our knowledge, there are no case reports that have reported methylphenidate or stimulants in general as treatment adjunct to antidepressants for depressive symptoms in ALS. This patient responded to sertraline and methylphenidate combination at relatively low doses. The use of stimulants was tried in a single patient, so more studies will be needed to confirm the utility of this class of medications and combination in the ALS population with depressive mood symptoms. Further literature on treatment of depression in ALS is needed including different pharmacological measures and treatment modalities. We suggest that in addition to an antidepressant, stimulants can be considered to help specific symptoms including motivation, energy, and concentration.

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EXPLORING YOUNGER VERSUS OLDER CANADIANS' PERCEPTIONS OF THE USE OF AI IN HEALTHCARE

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Introduction: With the adoptation of telemedicine in the healthcare system, many health services, programs and tools are now offered virtually. In this study, we aim to explore any differences between younger and older Canadians with regard to level of comfort and perceptions around the adoption and use of AI technology in healthcare settings. Our primary objective to compare perceptions of the use of AI in healthcare among younger versus older Canadians. We hypothesize that younger people, who are generally more exposed to emerging technology, will have more favorable opinions and responses to the use of AI in healthcare compared to older people.

Methods: We analyzed data from the 2021 Canadian Digital Health Survey which is a national open dataset. Upon identifying the items that address our objectives we grouped participants by age, into a younger (16-54 yo) and older group (>54 yo). To test our objective, we conducted Mann Whitney U tests to compare the level of comfort of younger versus older Canadians regarding the use of AI in healthcare for a variety of purposes.

Results: The average rank of artificial intelligence knowledge was significantly higher for younger participants (6296.97) than for older participants (5557.48), *Mann Whitney U* = 14779930.50, $n1$ = 7644 $n2$ = 4408, $p < .001$.

The average rank of comfort using personal data with informed consent was significantly higher for younger participants (5976.91) than for older participants (6112.49), *Mann Whitney U* = 16468338.00, $n1$ = 7644 $n2$ = 4408, $p < .30$. The average rank of comfort using personal data without informed consent was significantly higher for younger participants (6182.54) than for older participants (5755.90), *Mann Whitney U* = 15654590.50, $n1$ = 7644 $n2$ = 4408, $p < .001$. There was no significant