

## EPP0938

### Management of subjects with Intermittent Explosive Disorder and Autism Spectrum Disorder with Lumateperone

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**Introduction:** Use of lumateperone in reduction of aggression in patients with both autism spectrum disorder and intermittent explosive disorder has not heretofore been described.

**Objectives:** Explore the impact of lumateperone treatment for intermittent explosive disorder in autism spectrum disorder.

**Methods:** Case A: An illiterate non-verbal 18-year-old male, presented with history of behavior problems, developmental and intellectual delays. He attended special education programs at school where he had difficulty interacting with peers and teachers. For three weeks prior to presentation, he has displayed more anger and aggression, biting his hands, pounding on the walls and furniture, and screaming.

Case B: This 18-year-old male, presented with a history of hypsarhythmia, Lennox-Gastaut syndrome, severe developmental delay, deficit in socializing with lack of interaction with others and autism, presented with aggression, agitation, and hostility, banging on walls and furniture and throwing objects. Coincident with this was an increase in frequency of myoclonic seizures occurring up to twenty-five seizures per day followed by a postictal period of shouting and screaming.

**Results:** Case A: Psychiatric examination: Nonverbal, intermittently grunting and screaming, eyes darting, not responding to verbal commands. Posturing of arms in the air, in a hostile stance. Ten days post starting nightly lumateperone 42 mg, patient was no longer banging furniture nor biting. He remained non-verbal but without screaming and hostile behavior.

Case B: Psychiatric examination: Non-verbal screaming, throwing furniture, hitting walls and uncooperative to verbal commands. One month post starting lumateperone 42 mg nightly, while the seizures persisted, patient's violent attacks were not severe. Two months later, the aggression was much less severe, that he could attend school. Behavioral problems with aggression would recur an hour before the next evening's lumateperone dose.

**Conclusions:** Lumateperone modulates a variety of neurotransmitters including glutamate, functions as a presynaptic partial dopamine agonist and postsynaptic dopamine antagonist, and enhances N-methyl-d-aspartate, an inhibitor of serotonin reuptake (Reddy, 2020), input, on any of these, may be its mechanism of action (Vyas, 2020). Perchance, its action as a 5HT-2A receptor antagonist may be its method of reducing aggression, as has been posited for its anti aggression effect in schizophrenia (Vyas, 2020). Lumateperone impacts on neurotransmitters, including substance P, which modulate aggression (Gretchen, 2020). Alternatively ASD correlated with dysfunction of Area VIII A of the right posterior cerebellum and its connection with the left frontal cortex (Heemkerk, 2021). Lumateperone may act to stabilize these areas and thus inhibit aggression (Heemkerk, 2021). In those with aggression associated with ASD and IED, a trial of lumateperone may be worthwhile.

**Disclosure of Interest:** None Declared

## EPP0939

### The impact of COVID-19 on the Child and Adolescent Psychiatric Emergency Departments of the paediatric university hospital in Brussels

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**Introduction:** Since the COVID-19 pandemic outbreak, children and adolescents mental health has been severely impacted. During the first lockdown measures in the spring of 2020, we observed a decrease in access to care, principally due to the “stay home” policy. From the beginning of the year 2021, we observed a massive increase in admission to the Child and Adolescent Psychiatry (CAP) Emergency Departments (ED) (Beaudry *et al.* Ann. Gen. Psychiatry 2022; 21(1), 17; Hernández-Calle *et al.* SJCAPP 2022; 10(1), 53–57).

**Objectives:** First, this study aimed to quantify the increase in patients' admissions to the CAP ED of the paediatric university hospital in the urban area of Brussels. Second, we described the reasons for admission.

**Methods:** We conducted an observational retrospective study in the French-speaking Belgium paediatric university hospital in Brussels. Through the ED register, we selected all the admissions for psychiatric reasons from 1<sup>st</sup> December 2020 to 1<sup>st</sup> December 2021. Data were collected from patients' electronic medical records and compared to data from 1<sup>st</sup> January 2013 to 29<sup>th</sup> February 2016, already collected in 2016 from the same ED. To compare the variables between 2013-2016 and 2020-2021, we performed a Student's t-test for the number of admissions to CAP EP, a chi-squared test for sex rate, suicide attempts and urgent hospitalizations, and a Wilcoxon test for the median age. The study protocol was approved by the Queen Fabiola Children's University Hospital IRB (reference 99/21).

**Results:** Female patients were more represented in 2020-2021 than in 2013-2016 (48% compared to 66.1%,  $p < 0.001$ ), and the median age increased from 12 to 14 y.o. ( $p < 0.05$ ). Compared to a few years before, we registered a 280.79% increase in the admissions to the CAP ED, resulting in 252 admissions in 38 months (2013-2016) compared to 303 in 12 months (2020-2021) ( $p < 0.001$ ). Admissions for suicidal attempts were twice higher than 2013-2016 (from 6.8% to 12.5%;  $p < 0.001$ ) and urgent hospitalizations increased eight times (from 0.8% to 6.7%;  $p < 0.001$ ). Admissions to the CAP ED started to decrease progressively during the whole year 2021, with the lowest peak during summer holidays (Fig.1). In 2013-2016, the 3 main reasons for admissions to the CAP ED were disruptive behaviors (15.1%), psychomotor agitation (14.2%) and somatic manifestations (12.3%); whereas in 2020-2021, these were suicidal ideations (14%), suicide attempts (12.5%) and somatic manifestations (10.4%).

**Figure 1** – Admissions to the CAP ED during 2020-2021, rates per month.