



Centre de Neurosciences Psychiatriques

CNP SEMINAR

ANNOUNCEMENT

Friday, July 1st, 2022, 14:30 – 15:30

Ebselen: a lithium-mimetic without lithium side-effects?

Dr. Beata R. Godlewska

Clinical Psychopharmacology Research Group, Department of Psychiatry, University of Oxford, Warneford Hospital, Oxford, UK.

Development of new medications for mental health conditions is a pressing need given the high proportion of people not responding to available treatments. We hope that presenting ebselen to a wider audience will inspire further studies on this promising agent with a benign side-effects profile. Laboratory research, animal research and human studies suggest that ebselen shares many features with the mood stabilising drug lithium, creating a promise of a drug that would have a similar clinical effect but without lithium's troublesome side-effect profile and toxicity. Both drugs have a common biological target, inositol monophosphatase, whose inhibition is thought key to lithium's therapeutic effect. Both drugs have neuroprotective action and reduce oxidative stress. In animal studies, ebselen affected neurotransmitters involved in the development of mental health symptoms, and in particular, produced effects of serotonin function very similar to lithium. Both ebselen and lithium share behavioural effects: antidepressant-like effects in rodent models of depression and decrease in behavioural impulsivity, a property associated with lithium's anti-suicidal action. Human neuropsychological studies support an antidepressant profile for ebselen based on its positive impact on emotional processing and reward seeking. Our group currently is exploring ebselen's effects in patients with mood disorders. A completed 'add-on' clinical trial in mania showed ebselen's superiority over placebo after three weeks of treatment. Our ongoing experimental research explores ebselen's antidepressant profile in patients with treatment resistant depression. If successful, this will lead to a clinical trial of ebselen as an antidepressant augmentation agent, similar to lithium.

Invited by Jean-Rene.Cardinaux@chuv.ch

Selected recent publications:

1. Ramli, F.F., Cowen, P.J., and Godlewska, B.R. (2022). The Potential Use of Ebselen in Treatment-Resistant Depression. *Pharmaceuticals (Basel)* 15. doi: 10.3390/ph15040485
2. Sharpley, A.L., Williams, C., Holder, A.A., Godlewska, B.R., Singh, N., Shanyinde, M., Macdonald, O., and Cowen, P.J. (2020). A phase 2a randomised, double-blind, placebo-controlled, parallel-group, add-on clinical trial of ebselen (SPI-1005) as a novel treatment for mania or hypomania. *Psychopharmacology (Berl)* 237, 3773-3782. doi: 10.1007/s00213-020-05654-1
3. Masaki, C., Sharpley, A.L., Cooper, C.M., Godlewska, B.R., Singh, N., Vasudevan, S.R., Harmer, C.J., Churchill, G.C., Sharp, T., Rogers, R.D., and Cowen, P.J. (2016). Effects of the potential lithium-mimetic, ebselen, on impulsivity and emotional processing. *Psychopharmacology (Berl)* 233, 2655-2661. doi: 10.1007/s00213-016-4319-5

This event will take place on a virtual space on **Friday, July 1st 2022 at 14:30** through the link:

<https://chuv.webex.com/chuv/j.php?MTID=m7eb59aac5644d928611bce3625d772a0>

Meeting number (access code): 2731 707 0096

Meeting password: MGn2qV2Yvp5