

Investigating the effects of a potential new lithium-mimetic, ebselen, in treatment-resistant depression.

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Depression is mental health condition that places a bigger economic burden on society compared to other more commonly acknowledged health issues, such as asthma or diabetes. Exacerbating this problem, is that ~30% of depressed patients do not respond to the first-line antidepressant drugs, selective serotonin reuptake inhibitors. The patients that fail to respond to two trials of antidepressants, are classified to be ‘treatment-resistant’¹.

One drug that is often used for ‘treatment-resistant’ depression is lithium. However, lithium can have several unwanted side-effects and thus, there is a need to find other drugs that have the benefits of lithium, but without the side effects.

Our team at Oxford has been working on a new drug, ebselen, that has some of lithium’s effects in rodent models and appears to be safer in the clinic than lithium. Ebselen is a drug that was originally developed for the treatment of stroke and is being re-purposed as a ‘new lithium’^{2,3}. Therefore, this project will seek to evaluate if ebselen may have therapeutic efficacy in ‘treatment-resistant’ depression.

The candidate will recruit patients, and evaluate ebselen’s effect on validated, early markers of antidepressant response^{4,5}, compared to placebo. This will involve assessing patients innate biases towards positive and negative emotional stimuli, as well as brain imaging measures, before and after treatment. Based on these data, it will be assessed if ebselen should be further tested in large scale clinical trials in treatment resistant depression.

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References:

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