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EVERY CLOUD

What inspired mind could read about the devastation of the Zika epidemic—be aware of the congenital brain malformations and then think... ‘Do you know what, I think the virus may have health benefits when injected into brain tissue?’ Zika virus induces cell death and differentiation of neural precursor cells in the developing fetus. Could this property be harnessed to combat glioblastoma (GBM)? In a study, Zika preferentially killed GBM stem cells rather than differentiated tumour progeny or normal neuronal cells. GBM mice had longer survival when inoculated with Zika too. I suggest our local ethics board will struggle with this suggestion until further studies are published.

J Exp Med 2017;214(10):2843–2857.

TALKING BACK CONTROL

During an intervention, we are sometimes asked to ‘address our demons’. A new study from the Maudsley Hospital in London suggests that people with auditory verbal hallucinations do just that—and address their presumed persecutor, voiced by the therapist and visually represented by an avatar. Left-field as this may sound, this well-designed trial was positive with those receiving treatment scoring lower than controls on the psychosis Psychotic Symptom Rating Scales (PSYRATS)-AH rating score at 12 weeks. There was a large effect size, with barely any side effects from this therapy. This will no doubt please James Cameron, the director of the Oscar-winning *Avatar* film, which has a sequel in preparation for 2020—no doubt focusing on the rating score at longer than 12 weeks...



Figure 1 Domoic acid damage to brain assessed by cupric silver histochemistry and viewed at three levels of magnification. Degenerated pathways are seen throughout the hippocampus (left) and limbic regions of the hippocampus, septum and olfactory bulb (centre). At the cellular level, affected cell bodies appear as large black regions normally associated with terminal debris.

Lancet Psychiatry 2017 (Epub ahead of print)

N Engl J Med 2017;377:2113–2122.
N Engl J Med 2017;377:2123–2132.

RISE OF THE ANTIBODIES...

James Cameron is also famous for the *Terminator* film franchise... his dystopian view of a technologically decimated future failed to predict one thing... the rise and rise of the monoclonal antibody! We should not be surprised to see not one but two, positive monoclonal antibody studies for migraine in the *New England Journal of Medicine*. Both target the calcitonin gene-related peptide pathway. Erenumab at doses of 70 mg and 140 mg as a monthly subcutaneous injection significantly reduced migraine frequency and the need for other migraine medication. There was no excess of adverse events in the treatment group. Fremanezumab is again a monthly injection. While there were significant reductions in the frequency of migraine compared with placebo, there were some injection-site reactions, and five patients had abnormal liver function tests in the treatment group.

EPILEPTIC SEA-SURE

What could poisoned sea lions teach us about human epilepsy? The identification of thousands of stranded sea lions on Californian beaches provoked an investigation that identified a chronic neurological syndrome similar to temporal lobe epilepsy. Effects led to neuronal loss and astrogliosis in the hippocampus (figure 1) that can spread to the limbic system. The sea lions, as well as dolphins and whales had all been affected by domoic acid poisoning. This is similar to an outbreak in Japan, traced to contaminated mussels where victims had seizures and/or amnesia and four people died. Although adult female sea lions ingested the most domoic acid, young animals had fewer pathological changes but were most likely to seize and die, with many poisoned in utero.

Toxins 2010;2 (7):1646–1675.

Competing interests None declared.