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IN BRIEF

NEUROMUSCULAR DISEASE

Antisense oligonucleotide shows promise in SMA

The antisense oligonucleotide nusinersen is safe and tolerable, and might improve motor function in children with spinal muscular atrophy (SMA), according to a new phase I trial. SMA is caused by mutations in the *SMN1* gene, and nusinersen compensates for loss of *SMN1* function by altering the splicing of the mRNA encoded by the paralogue *SMN2*. Trial participants who received a single 9 mg intrathecal injection of nusinersen showed significant increases in motor scores both 3 months and 9–14 months after treatment, and the results indicate that the drug warrants further investigation in patients with SMA.

ORIGINAL ARTICLE Chiriboga, C. A. *et al.* Results from a phase 1 study of nusinersen (ISIS-SMN_{Rx}) in children with spinal muscular atrophy. *Neurology* http://dx.doi.org/10.1212/WNL.0000000000002445

NEURO-ONCOLOGY

An inverse link between allergies and glioma

A recent report from the Glioma International Case–Control Study (GICC) corroborates evidence of a reduced risk of glioma in people with allergies. According to the GICC, which includes 4,533 patients with glioma and 4,171 controls, the risk of glioma is decreased by around 30% in individuals with respiratory allergies, and similar protective associations are seen for eczema and asthma. The mechanisms underlying this inverse relationship are unclear, although heightened immunosurveillance could be a relevant factor.

ORIGINAL ARTICLE Amiran, E. S. *et al.* Approaching a scientific consensus on the association between allergies and glioma risk: a report from the Glioma International Case–Control Study. *Cancer Epidemiol. Biomarkers Prev.* **25**, 282–290 (2016)

PARKINSON DISEASE

Can tDCS enhance the benefits of physical therapy in patients with PD?

Physical therapy is known to improve both motor and cognitive functioning in patients with Parkinson disease (PD), and new research suggests that the addition of transcranial direct current stimulation (tDCS) to physical therapy could provide further cognitive benefits. The study included 20 patients with PD, who were assigned to physical therapy plus tDCS or physical therapy alone. Both groups showed enhancement of motor abilities and amelioration of depressive symptoms, and the patients who received tDCS showed additional improvements in cognition and verbal fluency.

ORIGINAL ARTICLE Mananti, R. *et al.* Mild cognitive impairment in Parkinson's disease is improved by transcranial direct current stimulation combined with physical therapy. *Mov. Disord.* http://dx.doi.org/10.1002/mds.26561

ALZHEIMER DISEASE

Anticancer drug prevents nucleation of toxic amyloid-β_{42} aggregates

The anticancer drug bexarotene has been found to inhibit the formation of amyloid-β_{42} ($A\beta_{42}$) fibrils — one of the main neurotoxic species in Alzheimer disease (AD). Experiments in neuroblastoma cells and a *Caenorhabditis elegans* model of $A\beta_{42}$-mediated toxicity revealed that the drug reduced the rate of nucleation of $A\beta_{42}$ aggregates, and also prevented loss of motility in the *C. elegans* model. The researchers propose that compounds such as bexarotene could have a future role in the prevention of Alzheimer disease.

ORIGINAL ARTICLE Habchi, J. *et al.* An anticancer drug suppresses the primary nucleation reaction that initiates the production of the toxic Aβ42 aggregates linked with Alzheimer's disease. *Sci. Adv.* **2**, e1501244 (2016)