



doi:10.1136/practneuro-2013-000538

STEM CELL LEPROSY TIP-OFF

Not since the era of Galenic medicine could anyone have suggested a dose of leprosy as the cure for any degenerative disorder. However, harnessing the sophisticated survival techniques of pathogens is a fertile avenue for therapeutics. The discovery that leprosy bacteria can reprogram cells to a stem cell-like state may also help circumnavigate some of the ethical questions that have dogged embryonic stem cells too. Masaki and colleagues were able to demonstrate that leprosy hijacks the host's genomic plasticity to reprogram adult Schwann cells by down-regulating differentiation-associated genes and upregulating genes for mesoderm development. This results in cells that are highly plastic, migratory and immunomodulatory.

Cell 2013;152:51–67.

MEMORY STICKS

The most ambitious questions deserve the largest and most sophisticated studies. Can we stop Alzheimer's disease in its very early stages? A hundred and twenty-eight volunteers who were at a proven risk of autosomal dominant Alzheimer's disease were studied to describe the pathogenic processes of pre-symptomatic disease. Amyloid- β (A β) 42 in the CSF appeared to decline 25 years before expected symptom onset; and A β deposition in the brain (measured with PET) was detected 15 years before. At 10 years prior to expected symptom onset cerebral hypometabolism and impaired episodic memory were seen. Mendelian disorders can be used to observe very early changes in neurodegeneration with the caveat being that autosomal dominant Alzheimer's disease is very rare and that we do not know how it compares as a model to 'sporadic' Alzheimer's disease.

N Engl J Med 2012;367:795–804.

SEGA MEGA DIVE

Subependymal giant cell astrocytomas (SEGAs) can cause life-threatening symptoms in tuberous sclerosis complex. They are usually located near the foramen of Monro, and develop in up to a fifth of individuals with tuberous sclerosis.

A double-blind, placebo-controlled, phase three trial enrolled 117 patients to either everolimus (n=78) or placebo (n=39). Twenty-seven (35%) patients in the everolimus group had at least 50% reduction in the volume of SEGAs versus none in the placebo group (difference 35%, 95% CI 15% to 52%; p<0.0001). Also of note—no patients discontinued treatment because of adverse events.

Lancet 2013;381:125–32.

VOODOO FILE (SLIGHT RETURN)

Martin Samuels review of 'voodoo' deaths and neurocardiology is a great reminder of how the head can rule the heart. He argues that the sympathetic limb of the autonomic nervous system is the common pathway that links the 'major cardiac and pulmonary pathologies seen in neurologic catastrophes.' This common pathway may be implicated in all manner of sudden deaths whether they are thought to be linked to epilepsy, asthma or cocaine use. Stress and catecholamine toxicity may have been the common factors implicated in all the 'voodoo' deaths reported in 20th century case reports.

Cleve Clin J Med 2007;74(Suppl 1): S8–16.

A REMEMBERABLE LECTURE

A Fo Ben cannot do justice to the eye witness accounts of Professor Brindley's infamous 1983 lecture entitled 'Vaso-active therapy for erectile dysfunction.' The details make the story: the nervous bespectacled Professor in a blue tracksuit; the poorly attended auditorium with urologists accompanied by their partners in full evening regalia (this was the last talk before the reception). The Professor started by describing that, lacking a genuine animal model, he had begun a series of self-experiments—injecting his penis with various vasoactive agents, including papaverine and phenolamine. His data looked promising. In an attempt to convince the audience fully, he stated that no man should find giving a lecture sexually stimulating—and went on to say he had injected himself prior to the talk (hence the loose-fitting tracksuit). It was at this stage that he attempted to demonstrate 'exhibit A' to the agog audience. Not content with the innuendo in his underwear, he dropped his shorts; 'there was not a sound in the room everyone had stopped breathing.'

BJU Int 2005;96:956–7.

J Sex Med 2012;9:337–42



Figure 1 Olympus BioScapes sponsor a Digital Imaging Competition which aims to turn microscopic images into art. Figure 1 was a highly commended entry from 2009 from Dr Ma Ivy Clemente of 'Glandular structures from Fibroadenoma and Nodular Prostatic Hyperplasia cases', giving a urological alphabet.

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