Global Update

News in Brief

Treating muscular dystrophy

Italian workers have recently published their work using stem cells in the treatment of muscular dystrophy. Their initial work was in mice. Initial success encouraged them to repeat their work in dogs with muscular dystrophy. They extracted mesoangioblasts, stem cells derived from endothelial lining of blood vessels of normal dogs. After multiplying them several fold they infused them intravenously into affected dogs. A significant slowing of the disease process was noted. Muscle biopsies also showed that these stem cells had traversed the blood vessels and fused themselves with the muscle fibres and started producing dystrophin. However since these are autologous transplants, life long immunosuppression is a problem. To circumvent this they have attempted to extract mesoangioblasts from the affected dogs, inserted the dystrophin gene into them and then reinfused them into the dogs. However clinical response to this therapy was unsatisfactory. It is thought that using a different version of the dystrophin gene will improve results.

How does this work differ from previous attempts to solve the therapeutic challenge of muscular dystrophy? Previous attempts at stem cell therapy included cells derived from bone marrow or muscle. These cells were able to revive only very few cells or needed to be injected directly into the muscles which becomes a tedious affair. Further the Italian workers claim that they have identified the equivalent stem cells in humans and clinical trials in humans may begin by late 2007. What is exciting is that many novel techniques to control this disastrous illness are soon reaching the stage of clinical trials including viral vectors with dystrophin gene and drugs to silence the mutation which interferes with dystrophin production. (Sampaolesi M, *et al*. Nature, published online doi:10/1038/nature05282 (2006), www.nature.com 15 November 2006).

Indian guidelines on stem cell research

India is seen as a potential biotech powerhouse. However, lack of regulations has made growth in this direction disorganized and chaotic. After 4 years of consultations, the ICMR and DBT (Department of Biotechnology) have brought out draft guidelines for stem cell research. According to this genetic engineering and transfer of blastocyts will be illegal. In vitro culture of human embryos beyond 14 days will also be prohibited. All cord blood banks will need to be registered with the Drug Controller General of India and pregnancy termination for possible financial benefits will not be legal.

In the meanwhile Life Cell a private Chennai based company which has a private cord blood bank is intending to start a public cord blood bank from January 2007. They will be collecting thousands of samples from across the country. Donated samples will be thouroughly screened and the donor baby will be monitored for 3 years for any genetic disorder. A patient who finds a match can buy it from the bank for a fee. With 43 million births a year India has the potential to be the world's largest supplier of umbilical cord blood and hundreds of patients of leukemia, thalassemia and sickle cell anemia may suddenly have a new option

beyond bone marrow transplant. The Times of India,18 November 2006.

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Pedscapes

repaudio - http://www.prepaudio.org/

This is the monthly audio journal from the American Academy of Pediatrics.The website contains audio files of CME programs on Pediatrics, some of which are free.The audio files can be downloaded and played using the popular MP3 format.

Simulconsult Neurological syndromes diagnostic software -http://simulconsult.com/neurologicalsyndromes/

This is a software program for diagnosis of neurological syndromes. On entering the symptoms and signs, Simulconsult suggests the differential diagnosis and the investigations required.The software runs from the web, hence downloads are not necessary and requires regstration, which is free. The database has over 1000 diseases. Simulconsult contains videos on how to use the software and case reports on neurology. Contributions are accepted.

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