Research update

Stem cells as a therapy for cerebral palsy

Stem Cells
- Stem cells are cells that have the ability to become any cell type of the body.
- They are found in embryos, fetal tissue, birth tissues, cord blood and several places in the body.
- Donated stem cells can come from the person who needs the stem cells (which is safest), from a matched relative or from an unrelated donor.
- Some types of stem cells can be stored for future use.
- Umbilical cord blood stem cells are the simplest and safest to use, when available.

Use in Cerebral Palsy
- Many types of stem cells have been explored as a treatment for cerebral palsy.
- There are problems that need to be solved with the use of all stem cells before they can be used clinically for cerebral palsy.
- There are different methods for delivering the stem cells into the body, including injections into the brain, the spine or into the bloodstream.
- It seems that very few of the injected stem cells stay in the body long term; mostly they release helpful molecules that circulate to the brain before the stem cells disappear.

Internationally
- There are eight current international trials of stem cells, either from bone marrow or cord blood, for children with cerebral palsy. There are two trials for adults with cerebral palsy.

What is happening in Australia?
- An Australian collaboration has formed to trial injecting a child’s own cord blood cells, or their matched sibling’s cord blood cells.
- The cord blood cell injection will be combined with intensive rehabilitation therapy.
- The aims of this study will be to look at:
  - whether a cord blood cell injection is safe,
  - whether a large Australian trial of this use of stem cells is feasible and appropriate.
- This study will gather information to guide future research; it will not give any definite answers as to the value of injecting stem cells into children with cerebral palsy.
- We hope the small pilot trial will begin in 2015.

Information about this and any other Australian trials will be circulated in CP Register newsletters and through community and professional organisations.

More information
- Stem cell research: www.closerlookatstemcells.org
- National Stem Cell Foundation of Australia: www.stemcellfoundation.net.au
- Current clinical trials: www.clinicaltrials.gov
- Cerebral palsy registers: http://cpregister.com/
- Cord blood banks in Australia:
  - www.abmdr.org.au
  - www.cellcare.com.au
  - www.stemlife.com

Royal Australasian College of Physicians Position Statement (click to follow link)

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