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Treatment offers diabetes sufferers hope

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THE dream of reducing - even eliminating - daily insulin injections may become reality for people with Type 1 diabetes by treating the cause of the debilitating disease instead of its effects.

If the approach lives up to early promise, it may also be used to treat other so-called auto-immune diseases such as rheumatoid arthritis, claim US and Chinese researchers who reported remarkable results for the new treatment in the open-access journal BMC Medicine.

"We hope this therapy will be cost-effective to improve the life quality of Type 1 diabetics," said the team leader, endocrinologist, immunologist and stem cell scientist Yong Zhao, from the Department of Medicine at Chicago's University of Illinois.

Type 1 diabetes is caused when the body's immune system attacks and destroys insulin-producing islet cells in the pancreas, requiring insulin injections to control blood sugar levels.

While most research focuses on replacing damaged islets, Professor Zhao and his colleagues targeted the defective immune system.

They used so-called mesenchymal stem cells obtained from human cord blood to "re-educate" misbehaving immune cells, or lymphocytes.

They did so by passing patients' blood through a "stem cell educator" containing layers of cord blood stem cells for two to three hours then returning it to the patients.

Twelve weeks after a single treatment, the daily dose of insulin was reduced by nearly 40 per cent in the nine volunteers with some islets and by 25 per cent in the six with no insulin-producing islets at all.

Control patients who received a sham treatment showed no improvement.
