Eye drug finds new life in Geelong diabetes trial

People with diabetes invited to participate in trial

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Modern drugs can stabilise adult onset diabetes but with some serious side effects. A Geelong-based company, Verva Pharmaceuticals, has a new approach – a drug used for many years to treat eye disease. In animal testing, the drug restored sensitivity to insulin. But will it be effective and safe in people?

Verva is collaborating with Deakin University, and physicians at the Geelong Hospital to conduct a clinical trial. They are looking for 80 people with adult-onset diabetes (also called type-2 diabetes) who are not currently being treated with diabetes medication. Several Melbourne hospitals are likely to join the trial in the coming months.

The clinical trial builds on work at Deakin University's Metabolic Research Unit (MRU) which has developed a technique for rapidly screening compounds as potential diabetes treatments. Their tests found that a compound used in the 1970s as therapy for eye disease could re-sensitise tissues to insulin.

The Phase 2a study will determine the safety and effectiveness of the compound, now known as VVP808. The chronic effects of VVP808 in diabetes have not previously been measured. The company is also investigating how the structure of VVP808 can be modified and used to build new insulin sensitisers with improved efficacy and reduced side-effects.

"Insulin sensitisers are important tools in diabetes therapy," says Verva CEO, Vince Wacher, "but significant side effects with existing products mean there is a market demand for a new sensitiser with improved safety and a different mode-of-action."

Verva was established in December 2007, by merging the diabetes interests of another Geelong-based company, ChemGenex Pharmaceuticals (ASX: CSX), with Brisbane obesity-focused biomedical company Adipogen Pharmaceuticals.

It was good timing. Many experts say diabetes is reaching epidemic proportions. Its incidence is increasing dramatically worldwide, in concert with the growth of obesity. The number of patients with diabetes in Australia is expected to double in the next 20 years. According to business information company Datamonitor, the multi-billion dollar worldwide market for diabetes therapy is expected to double faster than that—in only seven years.

The clinical trial of VVP808 will be a test of the company's Gene Expression Signature (GES) drug-discovery technique. To develop the technique, MRU researchers took technology originally developed for cancer research and applied it to diabetes, says the Unit's deputy director, Dr Ken Walder.

The GES technique depends on microarrays, a means of assessing the levels of thousands of genes simultaneously. Collective changes in the levels of certain genes—the gene expression signature—are related to the restoration of insulin sensitivity in diabetic cells. The GES can be used to assess how effective candidate compounds are at re-sensitising tissues to insulin by determining how closely they move the GES towards that of healthy cells.

"Geelong is internationally known as a particularly good area in which to undertake clinical trials," Wacher says. "It is the right size and diversity, and serves as a therapeutic hub for a regional population from which we can recruit trial participants. Geelong Hospital has good facilities, and the investigators and clinical team with whom we work have extensive laboratory and clinical experience with large international pharmaceutical companies."

"The trial is a randomised, double-blind, placebo-controlled trial in people who have diabetes but have not been on any other medication," says Dr Geoff Nicholson, head of the Department of Clinical and Biomedical Sciences at the Geelong Hospital.

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Potential study participants or medical professional interested in learning more about the VVP808 clinical study, including potential risks and side effects, may call the study coordinator in their area. Details at www.vervapharma.com