

TREATMENT WITHOUT SIDE EFFECTS: TOWARDS BETTER MEDICATION FOR TYPE 2 DIABETES



Diabetes has emerged as a chronic threat to human health, and scientists worldwide are on the hunt for improved ways to manage the disease.

More than 90 per cent of diabetes sufferers have Type 2 diabetes in which insulin, the major hormone responsible for control of glucose (sugar) metabolism, is no longer effective in the body. This condition, known as insulin resistance, leads to elevated blood sugar levels, or hyperglycaemia, and can cause complications including nerve, eye, kidney and blood vessel damage.

One of the current treatments for people with Type 2 diabetes is Rosiglitazone – marketed as Avandia – which improves the effectiveness of the cells that use insulin. This in turn corrects the body's blood sugar levels.

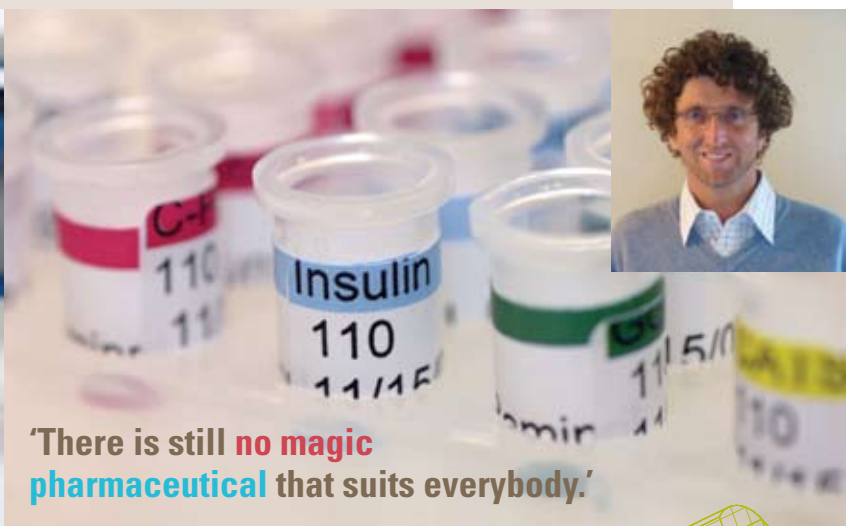
Unfortunately there are side effects caused by long-term Rosiglitazone use, including weight gain and fluid retention, which can place additional strain on the heart. A recent study has shown a small but significant correlation between Rosiglitazone use and an increased risk of death due to cardiovascular failure.

Deakin University researchers are trying to develop new compounds that work like Rosiglitazone, but without the side effects. "The thing with diabetes is there is still no magic pharmaceutical that suits everybody," says Dr Fred Pfeffer, from the School of Life and Environmental Sciences. "All the current treatments have some sort of side effect or limitation."

In partnership with researchers from Deakin's Metabolic Research Unit, Fred has produced a number of compounds that are being evaluated for their anti-diabetic ability. Results so far are extremely encouraging.

The researchers are also developing a new screening method to establish how the new compounds compare with Rosiglitazone in terms of the side effects. As one of the project leaders, Fred says the research is still in its early days. "But if this is successful, it will bring great relief to a lot of people for whom the current treatments aren't effective."

Dr Fred Pfeffer



'There is still no magic pharmaceutical that suits everybody.'

FURTHER INFORMATION:

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www.deakin.edu.au/scitech/les/research/rpa/chemistry/supramolecular/fred-pfeffer.php

