



From wild orchids to injection-free diabetes treatment

It all started with the chance discovery of a country lane full of wild orchids by an inquisitive young girl in rural England. That young girl, Frances Ashcroft, would go on to become one of Europe's leading diabetes researchers.

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'I started as a naturalist, which is good training for a scientist,' said Professor Ashcroft, who now runs a laboratory at the University of Oxford, UK. 'Naturalists are always observing things.'

Her research into insulin secretion eventually led to people born with diabetes – a rare form of the disease known as neonatal diabetes – being able to take pills instead of insulin injections.

Last year she won the L'Oréal-UNESCO For Women in Science Award for her work.

However, Prof. Ashcroft, who also writes popular science books, never planned on becoming a biologist.

As a child in rural Dorset, in the southwest of England, her first ambition had been to be a farmer's wife so she could have a pony. 'My second was to be a doctor, and my third was to be a nature reserve warden,' she said.

But the beauty of those wild orchids changed all that.

'I fell in love with them, and after that I spent much of my spare time trudging around looking for more,' she said.

She went on to study science at the University of Cambridge, UK. 'I can't imagine doing anything more exciting than science,' she said. 'The joy of science is about being the first person to see something that no-one else has seen before, and trying to puzzle out what it means.'

She later moved to the University of Oxford as an independent researcher and decided to focus on how insulin is released from the pancreatic beta-cell and what goes wrong with this process in diabetes.

'Having my own lab gave me time to think about what it was I wanted to do in the longer term – to try to answer the more difficult questions and not just the obvious ones,' she said.

She has made a number of important discoveries. As a young researcher, she showed that glucose stimulates the insulin release by closing a potassium channel. More recently, in collaboration with Professor Andrew Hattersley of Exeter University, UK, she found that mutations in the genes that code for this potassium channel cause neonatal diabetes. As the mutant channels can be closed by sulphonylurea drugs, this enabled patients to switch to drug therapy.

The lion's share of Prof. Ashcroft's research funding comes from the charitable foundation The Wellcome Trust. But she has also participated in several successful EU grant proposals. 'EU-funded networks have been immensely valuable to my research,' she said. 'They've stimulated a lot of fruitful collaboration.'

Her advice to a young scientist starting out on a career in science is that perseverance is key.

'Science is the most exciting thing there is, but remember that it isn't always easy and that some things take a very long time, so persevere and never give up. In the end you'll win through.'

More info

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