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Nuvilex “Breakthrough” In Perspective

The US biotech company Nuvilex made recent news when it obtained exclusive rights to use insulin-producing “Melligen” cells to develop a treatment and possible cure for type 1 diabetes. Here we apply a Practical Cure perspective to give some background on the technology.

The Science: Teaching liver cells to make insulin

Professor Ann Simpson and her colleagues at the University of Technology, Sydney, Australia, have spent the last two decades developing technology to convert liver cells into beta-cell-like insulin-producing cells, called Melligen cells.

Nuvilex plans to combine Simpson’s work on Melligen cells with their own “Cell-in-a-Box” encapsulation technology, which cocoons cells in tiny, semi-permeable cellulose-based beads. The goal would be to implant these fully encapsulated insulin-producing cells into type 1 diabetics to serve as a type of bio-artificial pancreas.

Practical Cure Perspective: A long road ahead

The approach is promising in that it will combine both a supply of insulin-producing cells and cell protection into one complete solution.

The sobering note is timing. Nuvilex has recently entered pre-clinical animal testing and there is no indication of when human trials might begin. However, based on common experience, if the pre-clinical trials are successful, 3-5 years is a reasonable estimate for the commencement of human testing. As a result, at this point the research has not progressed enough for us to label it as an emerging Practical Cure project. Should the time table change, we will update readers.