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## Joint Research Throws Light on New Treatment for Diabetes Foot Ulcer

The Hong Kong University of Science and Technology (HKUST) is collaborating with the United Christian Hospital (UCH) on the study of a recombinant protein, human epidermal growth factor (hEGF), for the treatment of diabetes foot ulcer.

This is the first time that clinical studies on a recombinant protein have been conducted in Hong Kong by university researchers in collaboration with hospital doctors.

hEGF has been shown to stimulate new growth of skin, intestinal and corneal surfaces, and to help treat wounds, burns, ulcers and corneal damage. However, the extensive use of hEGF as a therapeutic agent has for many years been hampered by its high production cost.

Using a recombinant DNA technology, Dr W K Wong and his research team at HKUST's Biochemistry Department have successfully developed a cost-effective way to mass produce hEGF. The technology they have developed has now been commercialized and incorporated in the manufacturing of skincare products now available on the market.

Dr Wong is joining hands with Dr Man-Wo Tsang, consultant in charge of Diabetes and Endocrinology at the United Christian Hospital, on the study of the treatment for diabetes foot ulcer, one of the major reasons for amputation. It is estimated that half of all lower limb amputations in orthopedic units are due to diabetes mellitus.

"We would have concentrated on the study of hEGF as a potential treatment for diabetes foot ulcer treatment a long time ago, had it not been for the expensive price of the peptide. Now, however, with an ample supply of hEGF, we will be able to see if hEGF can really serve as an active agent for the treatment," said Dr Tsang.

Currently, broad-spectrum antibiotics and vascular reconstruction are used for the treatment of diabetes foot ulcer. Recently a new drug--platelet-derived growth factor (PDGF)--has been approved by the FDA (Food and Drug Administration) as a therapeutic adjuvant for the ulcer. "The application of hEGF, PDGF and other factors together may result in an effective treatment," said Dr Tsang.

"This collaboration marks the first step toward the clinical application of recombinant hEGF," Dr Wong. "If results are encouraging, we will conduct studies on other clinical aspects, such as the use of hEGF in burns cases."

The first phase of the study began in late May and will last for about three months.