Improving psoriasis with GLP-1 analogue therapy

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(Medical Xpress) -- UCD clinician scientists and researchers from NUI Maynooth and Trinity College led by Conway Fellow, Professor Donal O'Shea have reported an improvement in the severity of psoriasis in patients following glucagon-like peptide-1 (GLP-1) analogue therapy. Their findings, published in *Diabetologia* raise the possibility of therapeutic applications for GLP-1 in inflammatory conditions due to the direct impact on innate natural killer T (iNKT) cells.

Psoriasis is an inflammatory skin condition causing scaling, itching, redness and plaque formation to varying degrees of severity. Associated with obesity and other metabolic diseases such as diabetes, it carries an increased risk of cardiovascular disease. iNKT cells are implicated in the development of psoriasis and obese people have lower iNKT cells in comparison to lean individuals.

The clinical team based in St Vincent's University Hospital found an unexpected improvement in the severity of psoriasis in a patient with type 2 diabetes within days of starting GLP-1 analogue therapy. They surmised this was due to the direct action of GLP-1 on iNKT cells.

The team began treating two obese patients with type 2 diabetes and psoriasis with the GLP-1 analogue, liraglutide. Both patients experienced relief from their psoriasis symptoms within days of starting treatment and the psoriasis area and severity index (PASI) decreased in both.

Describing the laboratory findings, Dr. Andrew E. Hogan, UCD

Newman Scholar and senior scientist said, “There was an alteration in iNKT cell number before and after commencing treatment; an increased number in the circulation and decreased number in psoriatic plaques. We also found that iNKT cells expressed GLP-1 receptor and modulated cytokine production”.

Professor Donal O’Shea believes that “Although extensive research will be required to investigate GLP-1 immune cell interactions, the potential benefit for inflammatory conditions such as psoriasis is promising”.

More information: Hogan AE et al. Glucagon-like peptide-1 (GLP-1) and the regulation of human invariant natural killer T cells: lessons from obesity, diabetes and psoriasis. *Diabetologia* (2011) 54:2745–2754 doi:10.1007/s00125-011-2232-3

Drucker DJ & Rosen CF. Glucagon-like peptide-1 (GLP-1) receptor agonists, obesity and psoriasis: diabetes meets dermatology. *Diabetologia* (2011) 54:2741–2744 DOI 10.1007/s00125-011-2297-z

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