The new source of islet cells

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The shortage of islet cells limits the development of islet transplantation. One new approach was reported in the October 21 issue of the *World Journal of Gastroenterology* because of its great significance in enhancing the output of islet cells. This article will undoubtedly bring benefit to diabetic patients.

The article describes the differentiation of rat pancreatic ductal epithelial cells into insulin-producing cells by the transfection of PDX-1. In recent years, though great efforts have been made to differentiate embryonic stem cells, pancreatic ductal epithelial multipotent progenitor cells and bone marrow stem cells into islet cells, the process of cell differentiation and growth is long. Moreover, the amount of islet cells of differentiation, and the insulin released by islets, is not enough to meet the clinical needs.

To shorten the process of differentiation and enhance the output of insulin-producing cells and increase the amount of insulin-releasing, Dr Liu et al. transfected PDX-1 into primary pancreatic ductal epithelial cells and then differentiated the transfected cells into insulin-producing cells. In contrast, the expression of PDX-1 and insulin mRNA and protein were detectable in the transfected cells. Endogenous PDX-1 might play an important role during differentiation and the transfected cells can produce more insulin-releasing cells and release more insulin after induction.

The results of this study suggest a promising future for many diabetic patients who need islets transplantation. Due to the high percentage of

diabetes mellitus and severe complications around the world, this case reported by Dr. Liu et al. is surely worth the attention of the researchers of diabetes.

Source: World Journal of Gastroenterology