Experts advocate realigning type 2 diabetes treatments with disease's natural history

October 6 2010

A new consensus statement published in the September, 2010, issue of The Endocrine Society's *Journal of Clinical Endocrinology & Metabolism* (*JCEM*) finds that the increasing recognition that beta-cell failure occurs much earlier and severely than commonly believed suggests that regular glycemia screening, early identification of patients at metabolic risk and prompt and aggressive intervention deserves greater emphasis.

The consensus statement is based on the findings of a working group of basic researchers, clinical endocrinologists and primary care physicians convened by The Endocrine Society, to consider whether current knowledge regarding pancreatic beta-cell defects justifies retargeting and retiming treatment for diabetes in clinical practice.

"There is widespread evidence that conventional approaches to the management of type 2 diabetes have been inadequate," said Jack L. Leahy, MD, of the Vermont Regional Diabetes Center in South Burlington, and one of the authors of the consensus statement. "Studies have increasingly shown that beta-cells have an important role in the progression of diabetes and if we could gain a better understanding of that role, we may be able to develop new and effective means of treatment. To that end, working group members advocate for continued basic research to elucidate the nature and mechanisms of beta-cell failure in type 2 diabetes."

Evidence from both human and animal studies suggests that type 2 diabetes is characterized by dysfunctional beta-cells that cannot adapt

insulin secretion to compensate for increasing insulin resistance. Beta-cell failure is believed to occur at an early stage in the progression of diabetes, and accumulating evidence suggests that the decline in beta-cell function may be slowed or even reversed, particularly if addressed early.

"Another recommendation of the working group is to explore new educational approaches to promote pathophysiology-based clinical practices, and that is why the Society has launched the new Web site, BetaCellsinDiabetes.org," said Leahy. "It is our hope that the new site will aid primary care physicians in the interpretation of concepts of disease pathogenesis, such as beta-cell dysfunction, and improve medical decision-making regarding treatment of type 2 diabetes. We have made the site practical by synthesizing research, creating case studies, providing a curated list of the published literature, and inviting viewers to comment throughout the site."

In the consensus statement, experts also recommend additional studies to establish the clinical value of pharmacological therapies targeting beta-cell function. In addition, further research should aim to determine whether specific genetic subtypes of type 2 diabetes lend themselves to individualized therapy to slow or reverse beta-cell decline.

"More research is needed to determine whether preserving beta-cell function improves morbidity and mortality rates," said Leahy. "Nonetheless, the increasing recognition that beta-cell failure occurs much earlier and severely than commonly believed suggests that regular glycemia screening, early identification of patients at metabolic risk and prompt and aggressive intervention deserves greater emphasis."

The 2009 working group meeting was funded by an unrestricted educational grant from Novo Nordisk. The consensus statement, "Targeting β-Cell Function Early in the Course of Therapy for Type 2 Diabetes Mellitus," appears in the September 2010 issue of *JCEM*.

Provided by The Endocrine Society