EARLY INITIATION OF INSULIN AND ITS ROLE IN TYPE 2 DIABETUS MILLITUS IN A TERTIARY CARE HOSPITAL

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ABSTRACT

Type 2 DM is a progressive disease characterised by the dysfunction of beta cell and insulin resistance. Dysfunction of the beta cells progression to the failure of the beta cells. Many patients with type 2 DM are managed with oral agents until developed complications. Non pharmacological approach to the treatment of type 2 DM is lifestyle modification, loss of weight, exercise and lastly insulin. This approach is carried out one by one and offered lastly insulin. Complications have developed due to the oral hypoglycaemic agents at the early initiation of insulin therapy. Therefore, it is important for clinicians to understand the importance of early initiation of insulin for glycaemic control can be achieved early and consequently prevent complications related to diabetes.

KEYWORDS: Early insulin therapy, type 2 diabetes millitus.

INTRODUCTION

Himsworth and Kerr[1] classified two main categories of diabetes: insulin-dependent and non-insulin dependent (or insulin-resistant) diabetes in 1930s. Type 2 diabetes mellitus (T2DM) is characterised by the dysfunction of beta cell and insulin resistance.[1] Sulfonylurea, biguanides, meglitinides, alpha-glucosidase inhibitors, thiazolidinediones, insulin, dipeptidyl peptidase 4 (DPP IV) inhibitors, glucagon-like peptide-1 (GLP-I) analogues and sodium glucose co-transporter 2 inhibitors are important therapy in type 2 dibabetus.[2,3] when glycemic control is inappropriate with oral hypoglycemic agents in such cases insulin supplementation is more effective when compared to oral hypoglycemic agents results in the less complications.[4,5] Insulin therapy was need for patient with type 2 diabetes mellitus for

glycaemic control.[6,7,8] Insulin doses can be titrated until an individualised glycaemic target is reached.[9] Insulin therapy in T2DM results in beta cell rest and prevents toxic effects of hyperglycaemia on beta cells.[10,11] Therefore, it is important for clinicians to understand the importance of early initiation of insulin for glycaemic control can be achieved early and consequently prevent complications related to diabetes.

OBJECTIVE: The purpose of this article is to determine the significant importance of insulin therapy in patients with type 2 DM.[13]

MATERIALS AND METHODS

Relevant English-language articles published from 1996 to 2006 were identified through searches of the National Centre for Biotechnology PubMed database. Search terms included insulin, insulin therapy, type 2 diabetes, insulin analogs, early insulinization and diabetes prevention, among others. Studies were assessed regarding designs, primary and secondary efficacy parameters, glycosylated haemoglobin (HbAM$_{lc}$), fasting plasma glucose, incidence of hypoglycemia, and other safety assessments. Inclusion criteria were multi centre, randomized, open-label, parallel-group trials, as well as retrospective observational studies, conducted in Europe or the United States. Additional analyses and guideline-based recommendations are included.

RESULTS

In prospective observational study in type 2 DM over 10 years of HbA$_{1c}$ level are low in early initiation of insulin therapy shows a significant reduction in the risk of micro vascular complication for about 27%. Evidence indicates that insulin therapy is more effective compared to oral hypoglycaemic agents for glycaemic control.

CONCLUSION

Based on the research, I concluded that usually insulin initiation as the last option in the treatment of type 2 DM.[1,4,12] Most common cause of chronic exposure to hyperglycaemia is delay in initiation of insulin which results in diabetes related complications.[12] Therefore early and persistent intensification of initiating insulin therapy in the management of type 2 DM which results in the reduction of diabetes related complications. So, that every clinicians to initiate insulin therapy early so as to reach individualised glycaemic targets early, thereby preventing type 2 DM related complications.

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