Predictors of response and secondary failure to Albiglutide therapy in type 2 diabetic patients

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Abstract

Aims: The objective of the present analysis is to identify predictors of response and secondary failure to Albiglutide therapy.

Method:

Demographic, clinical, and laboratory data collected from uncontrolled type 2 patients who received albiglutide as an add-on therapy. Initially, patients were classified intro responders, achieved a hemoglobin A1c of <7%, and nonresponders. Responders for albiglutide therapy were then sub-classified into patients with secondary failure (with hemoglobin A1c>7%) and patients without secondary failure.

Predictors of each of response were identified using a 2-step approach: First, univariate analysis, using Fisher test for categorical variables and t test for continuous variables, was performed to identify possible predictors of response ($P < 0.05$). Second, a logistic regression with forward addition followed by backward elimination was then performed using predictors identified in univariate analysis step to produce final model containing independent predictors at $P< 0.05$. Identification of predictors of secondary

failure was performed using the same statistical approach as the one implemented with response predictors.

Results: Patients' characteristics associated with glycemic response to Albiglutide has been identified. Predictors of response include American Indian or Alaskan Native race, low baseline hemoglobin A1c level, low potassium level, high magnesium level, and high urine pH. Additionally, predictors of secondary failure following a successful response to albiglutide were also identified that include low Thyroid stimulating hormone level and low urine specific gravity.

Conclusion:

Early selection of individuals with high potential of not responding to albiglutide therapy allows early intervention (such as selection of alternative antidiabetic medication). Early intervention in turn minimizes the odds of developing serious consequences and allows early achievement of successful glycemic control.