

- The current study assessed the accuracy of early glycemic response at week 12 as a predictor of subsequent treatment success in patients with type 2 diabetes mellitus (T2DM).
- Data from 3 randomized, controlled clinical trials that evaluated patients treated with 3 common drug therapies for T2DM, were assessed by using the gradient boosting method.
- A *composite unified* early-response measure (reduction in glycated hemoglobin (HbA<sub>1c</sub>) level of  $\geq 1.0\%$  or HbA<sub>1c</sub> level of  $< 7.0\%$ ) is recommended as an effective predictor for subsequent treatment success.
- Predictive values for improvements in HbA<sub>1c</sub> at week 24 were 0.67-0.83 (sensitivity), 0.81-0.94 (specificity), 0.44-0.71 (positive predictive value, and 0.90-0.96 (negative predictive value [NPV]).
- The high NPV (lack of early glycemic response) appears to be an excellent indicator of the likely need for a change in (or intensification of) therapy.

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