The Effects of PCSK9 Inhibitors on Glycemic Control

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ABSTRACT

BACKGROUND

Statins are considered first-line agents for managing lipid levels. However, statins have been shown to increase the risk of developing new onset diabetes. While PCSK9 inhibitors have been shown to be effective in lowering LDL cholesterol and reducing cardiovascular events, there is limited data available regarding how PCSK9 Inhibitors affect glucose metabolism. Therefore, we conducted a systematic review of PCSK9 inhibitors to assess their effects on glycemic control.

METHODS

We systematically reviewed studies that evaluated PCSK9 inhibitors to determine their effects on glucose metabolism. The eligible studies included those that evaluated glucose metabolism, including HbA1C, fasting plasma glucose, postprandial glucose metabolism and new onset diabetes. Data from these studies were synthesized qualitatively.

RESULTS

Twenty-seven studies were included in this review. In each of the studies, use of PCSK9 inhibitors did not produce clinically significant changes in either HbA1c or fasting plasma glucose when compared to placebo or standard treatment. No statistically significant increase in new-onset diabetes was found in large cardiovascular outcome trials or pooled analyses of evolocumab, alirocumab, and inclisiran. Also, lower post-PCSK9

inhibitor LDL cholesterol levels were associated with a reduced risk of new-onset diabetes, while lower lipoprotein(a) levels were associated with a higher diabetes risk, yielding an overall neutral effect of PCSK9 inhibitors on glycemic control.

CONCLUSIONS

In conclusion, PCSK9 Inhibitors seem to have a neutral effect on glycemic control and do not produce an increased risk of developing new onset diabetes. This supports the metabolic safety of PCSK9 inhibition for patients requiring aggressive lipid-lowering therapy.