hypoglycemia. GLP-1 RAs only functions when blood sugar is high (glucose-dependent), so the risk of hypoglycemia is relatively low when used alone. However, when used in combination with insulin or sulfonylureas (drugs that stimulate insulin secretion), the risk of hypoglycemia may increase. Clinical guidelines recommend that when GLP-1 RAs is initially used, the dosage of sulfonylureas or insulin should be appropriately reduced, especially in patients with blood glucose close to the target value (Hamed et al., 2024).

After combined medication, the doctor or the patient themselves should measure blood sugar multiple times. At the same time, the doctor should teach the patient to identify hypoglycemic symptoms and coping methods. Some patients can gradually adjust the original medication regimen and reduce the total dosage of insulin after using GLP-1 RAs. This contributes to better weight loss and improved metabolic function (Yao et al., 2024). Patients who receive combined therapy should be followed up regularly, and their medication should be adjusted according to their individual conditions to ensure that blood sugar control, weight management and medication safety all meet the standards.

7 Safety and Conclusion

The most common side effect in the treatment with GLP-1 receptor agonists (GLP-1 RA) is gastrointestinal problems, which are specifically manifested as nausea, vomiting, diarrhea or constipation. These reactions usually occur at the beginning of taking medicine or when the dosage is large. If it is more serious, it may prevent the patient from continuing to take the medicine. Gradually increasing the dosage and frequently informing patients of precautions are the main ways to alleviate discomfort and enhance their tolerance. It is necessary to tell the patient that adjusting their diet can relieve these symptoms. If they feel uncomfortable and it doesn't get better, they should speak up immediately. It should also be noted that most gastrointestinal reactions will gradually improve as the duration of taking the medicine increases. By adopting a more proactive management approach, doctors can help patients adhere to their medication and enjoy more stable metabolic benefits.

Although GLP-1 RAs has a relatively low risk of hypoglycemia due to its glucose-dependent mechanism, the risk of hypoglycemia increases when used in combination with insulin or sulfonylurea drugs. At this point, closer blood glucose monitoring is required, and the dosage of other hypoglycemic drugs should be adjusted as the situation requires to reduce the occurrence of hypoglycemia. On the other hand, if gastrointestinal reactions persist for a long time, it may cause dehydration or electrolyte imbalance. Elderly people or those with poor kidney function need to pay more attention. Clinically, attention should be paid to dehydration manifestations such as reduced urine output and orthostatic hypotension, and electrolyte levels should be evaluated when necessary. It is also necessary to guide patients to ensure they drink plenty of water and identify in which situations they need to seek medical attention promptly.

Overall, the value of GLP-1 receptor agonists in the population with type 2 diabetes mellitus complicated with obesity is clear, and they can simultaneously improve blood glucose and body weight. Their potential benefits in cardiovascular and renal aspects also support their use in the long-term comprehensive management of high-risk populations. Although safety issues such as gastrointestinal discomfort need to be managed in a standardized manner, under the premise of reasonable patient screening, sequential dosage increase and good monitoring, the overall benefits of GLP-1 RAs are usually greater than the risks. With the continuous increase in research, GLP-1 RAs is likely to continue to be one of the important drugs for the management of metabolic diseases, helping to improve the outcomes of patients with diabetes and obesity.

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Conflict of Interest Disclosure

The author affirms that this research was conducted without any commercial or financial relationships that could be construed as a potential conflict of interest.

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