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Gastric bypass surgery, a widely employed bariatric procedure for the treatment of morbid obesity, has transformative effects on the anatomy and physiology of the gastrointestinal tract. Beyond its primary objective of weight loss, this surgical intervention induces significant changes in the absorption, distribution, metabolism, and elimination of drugs fundamental components of pharmacokinetics. As an increasing number of individuals undergo gastric bypass surgery, understanding the intricate interplay between this procedure and drug pharmacokinetics becomes paramount for ensuring optimal therapeutic outcomes and patient safety [1]. The surgical technique involves the creation of a small stomach pouch and the rerouting of the small intestine, resulting in alterations to the traditional pathway of nutrient absorption and digestion. While the implications for weight management are well-documented, the consequences for drug absorption kinetics are an emerging area of interest. The modified gastrointestinal anatomy prompts a reassessment of drug bioavailability, with potential ramifications for the timing and extent of drug entry into the systemic circulation [2].

Gastric bypass surgery, a type of weight loss surgery, can have significant effects on drug pharmacokinetics. The surgery involves creating a small stomach pouch and rerouting the small intestine, leading to changes in the absorption and metabolism of medications. Here are some general outcomes and considerations

Altered absorption

The rearrangement of the digestive tract can affect the absorption of drugs. Medications that are primarily absorbed in the stomach or upper part of the small intestine may be affected more than those absorbed in the lower part of the small intestine [3,4].

Changes in bioavailability

Bioavailability refers to the proportion of a drug that enters the systemic circulation when introduced into the body and is made

Potential for drug interactions

The effects of obesity on drug

Gastric bypass surgery can also affect the absorption and metabolism of multiple drugs simultaneously, potentially leading to altered drug interactions. Healthcare providers need to consider these interactions when prescribing medications for patients who have undergone gastric bypass surgery [11].

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As healthcare professionals navigate the complexities of managing medications in individuals who have undergone gastric bypass surgery, it is imperative to strike a balance between achieving therapeutic efficacies and mitigating the risk of adverse effects. This review aims to consolidate existing knowledge on the outcomes of gastric bypass surgery on drug pharmacokinetics, providing a foundation for informed clinical decision-making and prompting further research to refine our understanding of this intricate interplay.

References