

## COMMENTARY

# Management of Refractory Diabetic Gastroparesis and its Pancreatic Transplant

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### ABSTRACT

Refractory Diabetic Gastroparesis (RDG), a condition that affects both type 1 and type 2 diabetics, causes severe symptoms such as nausea and vomiting and places a financial strain on the health-care system. A pancreas transplant is a surgical operation that involves transplanting a healthy pancreas from a deceased donor into a person whose pancreatic is no longer functioning correctly. The pancreas is a digestive organ located behind the bottom section of the stomach. One of its primary jobs is to produce insulin, a hormone that controls sugar absorption into cells. If the pancreas does not produce enough insulin, blood sugar levels can increase to dangerously high levels, leading to type 1 diabetes.

### INTRODUCTION

Refractory Diabetic Gastroparesis (DGP), a condition that affects both type 1 and type 2 diabetics, causes severe symptoms such as nausea and vomiting and places a financial strain on the health-care system. The essential features of refractory DGP are covered in this article, followed by a discussion of therapy options, which includes the definitions and clinical symptoms of refractory DGP, pathophysiology, diagnostics, and therapeutic efficacy evaluation. Due to the lack of established diagnosis criteria that have been evaluated by an international body, the diagnostic standards adopted in this study are those given out in the available literature. Drug therapy, dietary assistance, gastric electrical stimulation, pyloric botulinum toxin injection, endoscopic or surgical therapy, and traditional Chinese medicine are all options for refractory DGP. The treatment methods can be employed separately or in tandem [1].

This is a thorough examination of diabetic gastroparesis, defined as delayed or disorganised stomach emptying, encompassing basic concepts and current therapy trends. This study covers anatomy and physiology, diagnosis and differential diagnosis, management, and current

treatment guidelines for diabetic gastroparesis. Diabetic gastroparesis (DGp) is a kind of autonomic neuropathy caused by poorly managed type 1 and type 2 diabetes. The diagnostic workup for DGp begins by ruling out blockage and other possible causes, such as drugs that may resemble delayed/disordered stomach emptying. Nutrition, hydration, symptom alleviation, and glucose control are the hallmarks of DGp therapy. Furthermore, optimum DGp treatment requires appropriate glycemic control, which frequently involves personalising insulin administration with basal-bolus insulin and technology, such as sensor-augmented pumps and continuous glucose monitoring systems. Prokinetic drugs may assist with DGp symptoms, however only a few are now accessible in the United States. Selected medication-refractory DGp patients may benefit from gastric neuromodulation, and others may benefit from surgical treatments such as pyloric therapies, which can also be performed endoscopically [2].

Gastroparesis is a condition of gastrointestinal motility that causes nausea, vomiting, early satiation, postprandial fullness, bloating, and upper abdominal discomfort. In the absence of mechanical blockage, the diagnosis needs verified delay in stomach emptying using an optimum test such as scintigraphy or stable isotope gastric emptying breath test. Gastroparesis has several pathophysiologic causes, including antroduodenal hypomotility, pylorospasm, poor stomach adjustment, and visceral hypersensitivity. Gastroparesis has a variety of causes, but the most prevalent subtypes are idiopathic, diabetic, and postsurgical. Gastroparesis symptoms can be refractory and difficult to control, resulting in a worse quality of life and considerable health-care costs. This article discusses the epidemiology, clinical presentation, diagnosis, and differential diagnoses of gastroparesis, followed by a

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detailed discussion on its care, which includes nutritional assistance, prokinetic and antiemetic medicines, and new pylorus therapies. To assess the long-term effectiveness of stomach peroral endoscopic myotomy, large sham-controlled studies are required. To improve treatment results, a multidisciplinary strategy with personalised solutions based on pathophysiology characterization is regarded required [3].

Diabetes mellitus is a common condition that has a significant global public health impact. Along with cardiovascular, renal, and neurological issues, many diabetic patients experience gastrointestinal symptoms, which are referred to as diabetic enteropathy. This review will concentrate on upper gastrointestinal symptoms in diabetic patients, with a specific emphasis on dyspepsia and diabetic gastroparesis (DG). These two clinical entities share pathogenetic pathways such as autonomic neuropathy, changes in the enteric nervous system, and histological abnormalities such as Cajal interstitial cell depletion. Furthermore, the differential diagnosis may be difficult due to overlapping clinical characteristics. Delayed stomach emptying should be documented in order to distinguish DG from dyspepsia, and it can be examined using radioactive or non-radioactive techniques. The clinical treatment of dyspepsia encompasses a variety of techniques [4].

In gastroparetic Kidney-Pancreas (KP) transplant recipients, there are connections between patterns of stomach myoelectrical activity, symptoms of gastroparesis, years of diabetes, months of dialysis, and usage of gastrointestinal medicines. Before and after transplant,

Electrogastrography (EGG) and stomach symptom data were collected from 42 transplant patients. Although symptoms improve after transplant, gastroparesis remains a substantial issue for transplant recipients. Post-transplant, EGG normalisation and transitions from bradygastria to tachygastria occur. Our findings show that repeated EGGs and regular symptom assessments can be utilized to monitor gastroparesis in KP patients [5].

## CONCLUSION

Dietary modification and glycemic management play an important role, and prokinetics are used as first-line pharmaceutical treatment. A subset of patients with DG who are resistant to medical therapy may require more invasive therapies such as supplementary nourishment, stomach electric stimulation, pyloromyotomy, and gastrectomy.

## REFERENCES

1. Pang B, Zhou Q, Li JL, Zhao LH, Tong XL. Treatment of refractory diabetic gastroparesis: Western medicine and traditional Chinese medicine therapies. *World J Gastroenterol* 2014; 20:6504-6514. [PMID: 24914371].
2. Krishnasamy S, Abell TL. Diabetic Gastroparesis: Principles and Current Trends in Management. *Diabetes Ther* 2018; 9:1-42. [PMID: 29934758].
3. Benitez CM, Goodyer WR, Kim SK. Management of Gastroparesis. *Gastroenterol Hepatol (N Y)* 2021; 17:515-525. [PMID: 35466306].
4. Bonetto S, Gruden G, Beccuti G, Ferro A, Saracco GM, Pellicano R. Management of Dyspepsia and Gastroparesis in Patients with Diabetes. A Clinical Point of View in the Year 2021. *J Clin Med* 2021; 10:1313. [PMID: 33806716].
5. Pan FC, Brissova M. Gastroparesis following kidney/pancreas transplant. *Clin Transplant* 2004; 18:306-311. [PMID: 15142053].