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MANAGEMENT OF UPPER GASTROINTESTINAL MOTILITY DISORDERS: IDENTIFYING GAPS AND ROLE OF PROKINETICS IN FUNCTIONAL DYSPEPSIA (FD) AND DIABETIC GASTROPARESIS (DGP)

Gastroenterology

Dr. G. N. Ramesh Lead Senior Associate Consultant Medical Gastroenterology, Aster Medcity, Kochi, Kerala

Dr. Manish Bhatnagar* Consultant Gastroenterologist, Hepatologist & Therapeutic Endoscopist, Icon Hospital, Ahmedabad, Gujarat *Corresponding Author

ABSTRACT

The management of Functional Dyspepsia (FD) and Diabetic Gastroparesis (DGP) remains challenging due to the complexity of these disorders, which involve upper gastrointestinal motility disturbances with overlapping symptoms. A panel of Indian gastroenterology experts convened to discuss the diagnosis and treatment of FD and DGP, with a focus on the role of prokinetics. The experts emphasised the importance of thorough diagnostic evaluations to rule out other conditions before diagnosing FD, such as upper endoscopy for patients with alarming symptoms or refractory cases. In DGP, scintigraphy remains the gold standard for confirming delayed gastric emptying. Both FD and DGP often require individualized treatment approaches based on symptom severity and patient profiles. Prokinetics emerged as a cornerstone therapy for both FD and DGP. Among these, itopride was highlighted as the prokinetic of choice due to its dual action of enhancing gastric motility and alleviating symptoms with minimal side effects. The experts recommended itopride over alternatives like domperidone and levosulpiride for its favourable safety profile and effectiveness, particularly in treating symptoms of early satiety and postprandial fullness. The panel also discussed the benefits of combining prokinetics with acid-suppressive therapies, especially in FD patients with overlapping symptoms, and underscored the importance of glycaemic control and nutritional management in DGP.

KEYWORDS

Functional gastrointestinal disorders, Functional dyspepsia, Diabetic gastroparesis, Prokinetics, Itopride

INTRODUCTION

Upper gastrointestinal (GI) motility disorders, such as gastroesophageal reflux disease (GERD), dysphagia, achalasia, functional dyspepsia (FD), and diabetic gastroparesis (DGP), involve disrupted upper GI tract movement [1]. Previously termed functional GI disorders (FGIDs), these conditions were reclassified in 2016 as "Disorders of Gut-Brain Interaction" (DGBI) to reflect their complex nature [2, 3].

FD, affecting about 16% of the population, involves persistent upper abdominal pain or burning without a detectable organic cause. Its poorly understood pathophysiology includes impaired gastric accommodation, hypersensitivity, altered gut-brain interaction, and psychosocial factors [2, 4-7]. DGP, linked to long-standing diabetes in 20-50% of cases, is caused by delayed gastric emptying (DGE) due to vagal nerve damage and involves autonomic neuropathy, smooth muscle dysfunction, and altered neurotransmission [6, 8-10].

The classification of these disorders relies on clinical symptoms and diagnostic tools like gastric emptying studies and endoscopy [6, 7, 10]. However, symptom overlap hinders accurate diagnosis and effective management of FD and DGP [10]. Current treatments often lack efficacy and have undesirable side effects, highlighting the need for a deeper understanding of pathophysiology and the development of targeted therapies to improve outcomes [5, 7, 9, 10].

An advisory board composed of gastroenterology experts from India examined current practices, challenges, and potential improvements in diagnosing and managing FD and DGP, with an emphasis on role of prokinetics. Following each meeting, the expert opinions were collected, finalized, and formulated into a consensus-based strategy, ensuring that the collective insights and recommendations were thoroughly considered and integrated into the review.

Challenges With Diagnosis And Management Of FD And DGP

The primary obstacle in diagnosing FD lies in its symptomatic overlap with other GI disorders, such as GERD and IBS, and the absence of structural abnormalities detectable via standard imaging or endoscopy [11, 12]. Distinguishing FD from conditions like idiopathic gastroparesis is also difficult, as both exhibit DGE in about 40% of cases [12]. In primary care, managing FD is complicated by inconsistent guideline implementation. Milivojevic et al. (2022) highlighted the "test-and-treat" strategy for Helicobacter pylori as cost-effective, but its success is hindered by inconsistent adherence across healthcare settings, leading to suboptimal outcomes [13]. Madisch et al. (2018) emphasised the therapeutic challenges due to the lack of a universally effective FD treatment [11, 14].

Delayed gastric emptying defines gastroparesis, yet many patients are asymptomatic, and symptom profiles in diabetic patients with normal or DGE often overlap [10]. Symptoms like nausea and bloating do not reliably correlate with gastric emptying rates [15]. Diagnostic challenges are heightened by the weak link between improved gastric emptying and symptom relief in prokinetic therapy trials [10]. Managing DGP requires a tailored approach due to the mismatch between symptoms and gastric emptying severity seen in scintigraphy [16]. Limited pharmacological options, with metoclopramide as the only FDA-approved agent, and its chronic use associated with risk of tardive dyskinesia, highlight the need for safer and more effective treatments [17].

Diagnosis Of FD And DGP

FD And Its Subtypes: EPS And PDS

The Rome IV criteria classify FD into two subtypes: postprandial distress syndrome (PDS), characterised by meal-induced dyspeptic symptoms, and epigastric pain syndrome (EPS), marked by epigastric pain or burning that is not exclusively postprandial [5, 7]. Ghoshal and Singh (2016) found that 9% of FD patients had EPS, 27% had PDS, and a majority (64%) experienced both, exhibiting an overlap [18].

Diagnosis Of FD

The diagnosis of FD is primarily one of exclusion, requiring thorough evaluations to rule out other causes of dyspepsia, such as peptic ulcer disease, GERD, and malignancies. While not universally recommended, routine tests like a complete blood count to detect anaemia and liver function tests for suspected hepatobiliary disease may be performed [11, 19]. Instrumental examinations, including esophagogastroduodenoscopy (EGD) with biopsy and abdominal ultrasonography, are also used [11]. Upper endoscopy is particularly advised for patients over 60 or those with alarm features such as significant weight loss, persistent vomiting, dysphagia, lymphadenopathy, GI bleeding, or anaemia [11, 19].

Meal testing, involving a standardized nutrient test meal, is another diagnostic tool to provoke symptoms and assess gastric accommodation, particularly in patients with PDS [19]. Given symptom overlap and the absence of specific biomarkers, a detailed patient history and symptom evaluation are essential. This includes symptom categorization into FD subtypes and identification of alarm features requiring further investigation [19].

Expert Opinion

Experts believed that in Indian clinical settings, EPS and PDS often overlap, making strict differentiation challenging but potentially beneficial for accurate diagnosis. They emphasised the importance of ruling out organic causes through tests like endoscopy, blood tests, and

evaluations for peptic ulcers, pancreatic diseases, gallstones, and celiac disease. The experts highlighted that higher prevalence of celiac and gallstone disease in North India influences diagnostic strategies. Assessing for IBS, GERD, weight loss, GI cancers, and medication history is also crucial. The experts recommended endoscopy for red flag signs, patients over 55 years with a family history of malignancy, and those with refractory dyspepsia. For non-responders, symptom-specific specialized tests are reasonable. The panel concluded that the EPS patients may need more intensive workups, including imaging and inflammatory markers, to exclude serious conditions.

Diagnosis Of DGP

The diagnostic process begins with a thorough review of the patient's medical history and physical examination to rule out other possible causes [20]. The first step in evaluating patients with symptoms indicative of DGP involves excluding mechanical obstruction and peptic ulcer disease through an upper GI endoscopy. Endoscopy revealing retained food without mechanical obstruction and the presence of bezoars can suggest gastroparesis. A CT scan with oral and intravenous contrast or a small bowel follow-through, can be done to exclude obstruction beyond the duodenum [15, 20].

Once other causes are ruled out, the next step is to confirm DGE. According to the American Gastroenterological Association, the gold standard for diagnosing gastroparesis is gastric emptying scintigraphy [10, 15, 20]. A gastric retention of more than 10% at four hours is indicative of DGE [15, 20].

Expert Opinion

Experts emphasised that diagnosing DGP relies on patient history and endoscopy, especially in limited-resource settings, with symptoms like nausea, vomiting, weight loss, and malnutrition being stronger indicators than FD. They highlighted endoscopy's role in ruling out obstruction and detecting retained gastric food, while scintigraphy's use for accurate diagnosis and follow-up.

The panel stressed the importance of evaluating diabetic control, duration, and complications, as well as other potential causes like psychiatric or neurological conditions. While DGP symptoms often persist, experts noted that controlling hyperglycaemia can reduce their severity. The Gastroparesis Cardinal Symptom Index (GCSI) was highlighted for clinical prognostication, like the Bristol stool chart for IBS.

Electrogastrography (EGG) and gastric emptying scintigraphy (GES)

In view of discriminating conditions with similar symptoms but different underlying mechanisms, EGG and GES have proved to be crucial for differentiating FD from DGP. EGG measures gastric myoelectrical activity through cutaneous electrodes, providing data on gastric slow waves' frequency and amplitude. GES measures gastric emptying rates by tracking a radionuclide meal through the stomach. The standardized GES protocol ensures reliable results, making it essential for diagnosing DGP [21].

Together, EGG and GES provide a comprehensive evaluation of gastric motility, enhancing diagnostic accuracy. EGG identifies electrophysiological abnormalities, while GES quantifies gastric emptying rates. This combination allows for precise differentiation between FD and DGP, guiding appropriate therapeutic interventions and improving patient outcomes [21].

Expert Opinion

Experts highlighted the growing importance of EGG in diagnosing and managing gastroparesis and FD, particularly in assessing gastric myoelectric activity. The panellists noted its use alongside gastric emptying studies to guide treatments like balloon dilatation and G-POEM, though concerns about EGG's reliability persist, with scintigraphy being still the gold standard.

They emphasised that gastric scintigraphy is crucial for confirming gastroparesis and considering advanced treatments like G-POEM. Experts also pointed out challenges with access to tools like scintigraphy and EGG in smaller centres, particularly in India, due to availability and standardization issues, with scintigraphy being more accessible.

Management Of FD

The management of FD involves several strategies, including acid-suppressing and neutralizing therapies, neuromodulators, and prokinetics, each with its own benefits and drawbacks.

Acid Suppressing And Neutralizing Therapies

Proton pump inhibitors (PPIs) like omeprazole and lansoprazole, and histamine-2 receptor antagonists (H2RAs) like ranitidine, are commonly used for FD. PPIs offer moderate effectiveness, with a meta-analysis showing a 0.87 relative risk reduction (95% CI: 0.08, 0.96) for persistent symptoms compared to placebo, though benefits are seen in only 14% of patients [7, 22]. H2RAs provide symptom relief but are less consistent. These therapies reduce gastric acid secretion to alleviate symptoms but carry risks like nutrient malabsorption and increased GI infections with long-term use [7, 22].

Neuromodulators

Neuromodulators, including tricyclic antidepressants (TCAs) like amitriptyline and selective serotonin reuptake inhibitors (SSRIs) such as escitalopram, target the brain-gut axis to reduce FD symptoms [7, 11, 22]. These medications are particularly useful for patients with overlapping psychological symptoms like anxiety and depression [7]. TCAs have shown significant improvement in symptom relief, with a number needed to treat (NNT) of 6 [22]. However, side effects such as dry mouth, drowsiness, and weight gain can limit their use, especially in older adults [7, 22].

Prokinetic Therapy

Prokinetics like metoclopramide, domperidone, itopride, and newer agents such as acotiamide enhance gastric motility and are beneficial for FD patients with DGE or impaired gastric accommodation [7, 11, 22, 23].

Treatment Preferences In EPS And PDS

Treatment approaches for FD vary by subtype due to differing symptoms and mechanisms outlined in the Rome IV criteria. For EPS, characterised by pain or burning in the epigastric region, PPIs and H2-receptor antagonists are commonly used to neutralize stomach acid and alleviate symptoms linked to acid exposure [24]. In contrast, PDS, marked by postprandial fullness and early satiation, benefits from prokinetic agents like acotiamide, which improve gastric motility and accommodation, reducing fullness and bloating [24].

While subtype-based treatments improve outcomes by addressing distinct pathophysiology, evidence stays limited, and current guidelines do not recommend subtype classification to guide therapy [24].

PPIs: An Effective But Not Universally Preferred First-line Treatment

Guidelines, including those from the American College of Gastroenterology (ACG) and the Canadian Association of Gastroenterology (CAG), endorse a trial of PPIs for 4-8 weeks for FD patients, especially after H. pylori eradication or in H. pylori-negative patients. Studies have shown that PPIs can provide symptom relief in a subset of FD patients, although their overall efficacy stays modest with a number needed to treat (NNT) of 11. Despite their benefits, PPIs are not universally preferred due to potential long-term side effects, such as nutrient malabsorption and increased risk of GI infections, which necessitates careful patient selection and monitoring. In regions with low H. pylori prevalence (<20%), initiating treatment with a course of PPIs is recommended as the preferred first-line option before considering a test-and-treat approach [25].

Prokinetics: An Efficacious First-line Option And Mainstay Of The Treatment For Fd

Given the long-term side effects associated with PPIs, prokinetics are considered a potentially effective first-line and mainstay of the treatment for FD [18]. They are employed to enhance gastric motility and improve GI symptoms. The mechanism of action primarily involves antagonism of dopamine receptors and enhancement of acetylcholine release, which increases GI motility and reduces visceral hypersensitivity [25].

Levosulpiride, a dopamine D2 receptor antagonist, has proven effective in managing FD by relieving symptoms through its prokinetic effects. However, its use is accompanied by notable adverse effects, including extrapyramidal symptoms like stiffness, tremor in 86.66% (26/30) cases [26 - 28]. Additionally, there are side effects such as galactorrhea (26.7%), somnolence (17.8%), fatigue (11.1%), and

headache (11.5%). These can limit its tolerability and long-term use in some patients [27]. Comparatively, itopride was associated with fewer and less severe side effects, enhancing its overall safety and patient adherence to the treatment [29].

Acotiamide, another novel prokinetic agent used for treating FD, has shown some promise in improving symptoms such as postprandial fullness and early satiety [24, 30]. However, there were non-significant adverse effects associated with acotiamide, including elevated levels of alanine transaminase (ALT), serum prolactin, and bilirubin [30]. Its efficacy also appears limited in patients with EPS who have gastric acid hypersecretion. Itopride has been suggested to have a broader efficacy without the limitations associated with gastric acid levels, potentially making it a better alternative for managing FD [30, 31].

Clinical studies have demonstrated itopride's efficacy and safety in alleviating symptoms such as postprandial fullness, bloating, and early satiety, along with improvement in the Nepean Dyspepsia Index Quality of Life score [32]. For Global Patient Assessment (GPA), itopride showed better outcomes than domperidone, mosapride, and placebo. Itopride had better relative risk ratios when compared to domperidone, in control of symptoms such as postprandial fullness and early satiation [33].

Expert Opinion

Experts emphasised the importance of subtype categorization for effective management, noting its role in guiding second-line therapy if first-line treatment fails. They recommended PPIs as the first-line option after ruling out H. pylori infection, with a two-week triple or quadruple therapy for H. pylori-positive patients potentially resolving symptoms.

The panel highlighted itopride's superior safety and efficacy among prokinetics, favouring it over alternatives like domperidone and levosulpiride, the latter reserved for inpatient use due to side effects. The experts noted itopride's versatility in managing overlapping symptoms in FGIDs when combined with PPIs, offering benefits of acid suppression and enhanced motility. Its flexible dosing improves compliance, and its effectiveness across symptoms like bloating and early satiety makes it a cornerstone therapy with minimal side effects.

Management Of DGP

Treatment strategies for DGP typically include dietary assessments and adjustments, strict glycaemic control, and the use of medications such as prokinetic and antiemetic agents. These measures are usually effective for most patients who experience mild to moderate symptoms. For mild gastroparesis, dietary changes are key, with ACG recommending a small particle diet to aid symptom relief and gastric emptying [9, 15, 20, 34].

However, a small group of patients with severe DGP face more complex challenges, including difficulty maintaining adequate oral intake, malnutrition, significant weight loss, and frequent hospital visits. Managing these cases can be particularly challenging, although newer treatments, such as gastric neurostimulation, offer promising options [9].

Treatment Options

Pharmacological treatment is recommended for patients with persistent symptoms despite dietary adjustments and glycaemic management [20]. The main medication classes include prokinetics, antiemetics, and occasionally analgesics [9, 20]. For refractory symptoms, tricyclic antidepressants (TCAs) may help reduce nausea and vomiting, though caution is needed as some TCAs may impair gastric motility. If pharmacotherapy is insufficient, surgical options like gastric electrical stimulation, pyloroplasty, gastrojejunostomy, or gastrectomy may be considered [20]. Prokinetic agents, endorsed by ACG, are central to diabetic gastroparesis treatment, improving gastric emptying and relieving symptoms [15, 20].

Role Of Prokinetics

Prokinetics are the cornerstone for the management of gastroparesis as they increase gastric contractility and allow for rapid stomach emptying. They are known to provide symptomatic relief by improving gastric emptying, as well as reduction in HbA1c levels, in patients with diabetes [26]. Among these, itopride is known to increase gastric motility and lower esophageal sphincter pressure, accelerate gastric emptying and improve gastroduodenal contraction [26]. Rai et al in the Progress study, demonstrated positive effects of itopride on gastric emptying in patients with diabetes who have GI motility issues, with significant improvements in symptom severity, complete recovery, glycaemic parameters as well as patients' QoL [35] Shah et al also demonstrated a lower postprandial glycaemic excursion in patients with T2DM with use of itopride in comparison to placebo [36]. Studies report symptom improvement without significant effects on glucose levels with use of levosulpiride [37].

Expert Opinion

Experts emphasised the need for a multifaceted approach to managing DGP, highlighting individualized treatment plans focusing on glycaemia control, nutritional management, and pharmacotherapy. The consensus underscored the critical role of strict glycaemic control, as persistent hyperglycaemia worsens gastric emptying delays. A stepwise dietary approach was recommended, progressing from lifestyle changes for mild cases to surgical interventions for severe, refractory cases.

The panel highlighted itopride's efficacy and safety as a primary pharmacological agent, noting its ability to enhance gastric emptying and potentially stabilize postprandial glycaemic control. Long-term use of itopride was deemed tolerable, with regular reassessment based on symptom improvement. Prokinetics such as itopride, domperidone, and cinitapride were identified as first-line treatments, while levosulpiride was reserved for refractory cases due to side effects.

Experts also discussed concerns about long-term PPI use, including risks of renal impairment, vitamin deficiencies, and neuro-cardiac effects. They recommended tapering or using PPIs on-demand to minimize risks. For severe, refractory cases, newer interventions like G-POEM were mentioned, though long-term efficacy and safety data remain limited.

Prokinetics

Prokinetic drug classes used in FD include dopamine antagonists, serotonergic agonists and cholinergic agonists. Each class works by enhancing gastric motility and expediting gastric emptying. However, these drugs are associated with significant neurological and cardiovascular safety concerns. Their permeability through the blood-brain barrier (BBB) and antagonism of central D2-receptors result in drug-induced movement disorders (DMIDs) [17, 23, 26].

Metoclopramide, a dopamine antagonist, although does not cross BBB, is linked to extrapyramidal side effects such as tardive dyskinesia and parkinsonism [17, 23, 26]. It is also linked to gynecomastia, galactorrhea, amenorrhea, and impotence caused by D2 blockade in the pituitary [23, 26]. Similarly, serotonergic agonists like cisapride have been withdrawn due to their association with cardiac arrhythmias and QT interval prolongation [26].

Studies show that metoclopramide significantly reduces the gastroparesis cardinal symptom index (GCSI) score, indicating symptomatic relief, though this benefit does not always align with sustained gastric emptying improvements [38 - 40]. Studies also indicate that domperidone, another dopamine receptor antagonist, is more favourable than metoclopramide due to fewer central nervous system side effects. Domperidone effectively alleviates symptoms of gastroparesis and improves gastric emptying but is limited by tachyphylaxis and potential cardiotoxic effects, such as QT interval prolongation [40].

Itopride: A Favourable Prokinetic Of Choice

Itopride has shown a more favourable safety profile. In a study comparing the two drugs, itopride was equally effective in relieving symptoms of non-ulcer dyspepsia, with 90% of patients reporting moderate to complete symptom relief, compared to 83.33% for levosulpiride. Moreover, itopride did not cause QT interval prolongation, a serious cardiac side effect observed in two cases treated with levosulpiride. Additionally, itopride was associated with fewer and less severe side effects, enhancing its overall safety and patient adherence to the treatment [29].

Itopride has emerged as a prominent choice in the treatment of FD due to its dual action on GI motility. Clinical studies have demonstrated its efficacy and safety in alleviating symptoms such as postprandial fullness, bloating, and early satiety. A key study involving 523 patients meeting the Rome II criteria showed that itopride, at doses of 50 mg,

100 mg, and 200 mg thrice daily, significantly improved symptom scores compared to placebo, with the 200 mg dosage showing the greatest improvement (P<0.001). Additionally, the Nepean Dyspepsia Index Quality of Life score improved by a mean of 18.0±21.9 with itopride compared to 13.2±19.4 with placebo [32].

Further supporting its efficacy, itopride has been compared to domperidone, mosapride, and placebo in various clinical trials for treating FD. A meta-analysis involving 2,620 patients with FD demonstrated that itopride significantly improved symptoms compared to control groups [32, 33]. For Global Patient Assessment (GPA), itopride showed a relative risk (RR) of 1.11 (95% CI: 1.03, 1.19; P = 0.006), indicating better outcomes than domperidone, mosapride, and placebo. Regarding postprandial fullness, itopride had an RR of 1.21 (95% CI: 1.03, 1.44; P = 0.02) compared to domperidone, and for early satiation, the RR was 1.24 (95% CI: 1.01, 1.53; P = 0.04). However, for epigastric discomfort, itopride and domperidone had similar efficacy (RR 1.00; 95% CI: 0.88, 1.14; P = 0.98) [33]. These findings suggest that patients receiving itopride reported statistically significant improvements in symptoms, compared to controls.

In a study involving 12 non-insulin-dependent diabetes mellitus (NIDDM) patients with gastroparesis, itopride hydrochloride (150 mg/day) was administered orally for two weeks. The treatment significantly improved gastric function, as evidenced by an increase in pre-prandial electrical gastrography dominant frequency from 58.1% to 72.9% and post-prandial frequency from 41.7% to 71.4%. Gastric emptying also improved, with the percentage of radiopaque markers emptied from the stomach increasing from 5% to 24%. Additionally, post-prandial acetaminophen blood concentrations rose from 9.7 µg/mL to 14.0 µg/mL, indicating enhanced gastric emptying. These findings suggest that itopride is effective in improving gastric motility in NIDDM patients with gastroparesis [41].

In another study evaluating the effect of itopride on gastric emptying in patients with longstanding diabetes mellitus, 25 patients (20 with type 1 and 5 with type 2 diabetes) were enrolled in a double-blind, placebo-controlled, randomised, crossover trial. Itopride, administered at a dose of 200 mg three times daily for 7 days, showed a modest trend toward accelerating gastric emptying for both solids and liquids, although the differences were not statistically significant. While itopride had a noticeable impact on accelerating liquid gastric emptying in patients with DGE on placebo, this effect was modest overall [42].

Furthermore, in another study involving 41 diabetic patients with confirmed gastroparesis, itopride (150 mg daily) was administered over an 8-week period. The results demonstrated significant improvements in GI symptoms, with no severe symptoms remaining after treatment. The study also showed substantial improvements in glycaemic control, with a reduction in HbA1c levels by 0.5%, fasting plasma glucose by 15.3 mg/dL, and postprandial plasma glucose by 24.6 mg/dL. Additionally, patients reported a significant improvement in quality of life, as evidenced by a reduction in the PAGI-QoL score by 13.8 points [35].

Expert Recommendations

- A thorough evaluation of both FD and DGP should be done to ensure accurate diagnosis and effective management. For FD, an endoscopy, blood tests, and assessments can help rule out conditions such as peptic ulcers and celiac disease.
- Endoscopy is important for patients with alarming symptoms or those who do not respond to initial PPI therapy.
- For DGP, endoscopy should be done to exclude mechanical obstruction, complemented by gastric scintigraphy to confirm delayed gastric emptying. Scintigraphy is vital for diagnosis and monitoring, with a 200-calorie meal showing significant gastric residue at four hours indicating gastroparesis.
- While other diagnostic tools like EGG can provide additional insights, their availability is limited.
- In the management of FD and DGP, itopride is recommended as the prokinetic of choice due to its superior safety and efficacy profile. Itopride's dual action—enhancing gastric motility and alleviating nausea—makes it particularly effective in treating the overlapping symptoms of FD, including bloating and early satiety, and in treating DGP, where improved gastric emptying is crucial.
- Compared to alternatives like domperidone and levosulpiride, itopride is preferred for its minimal side effects and flexible dosing options, which range from once to thrice daily, thus improving patient compliance and allowing for personalized treatment regimens. Similarly, compared to acotiamide with limited efficacy in EPS, itopride has been suggested to have a broader efficacy, potentially making it a better alternative for managing all subtypes of FD (EPS and PDS).

CONCLUSION

Functional Dyspepsia and Diabetic Gastroparesis, two prominent upper GI motility disorders, represent a significant challenge due to their complex pathophysiology, substantial impact on patient quality of life, and the intricate challenges they pose in clinical management. A thorough evaluation of both FD and DGP is necessary to ensure accurate diagnosis and effective management. In the management of FD and DGP, experts strongly recommended itopride as the prokinetic of choice due to its superior safety and efficacy profile. Itopride's dual action—enhancing gastric motility and alleviating symptoms—makes it particularly effective in treating the overlapping symptoms of FD, including bloating and early satiety, and in treating DGP, where improved gastric emptying is crucial.

Author Contributions

The authors made significant contributions to the inception of the advisory board meetings, documented the conversations, and substantively evaluated and approved the final version of the manuscript.

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Conflict Of Interest

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