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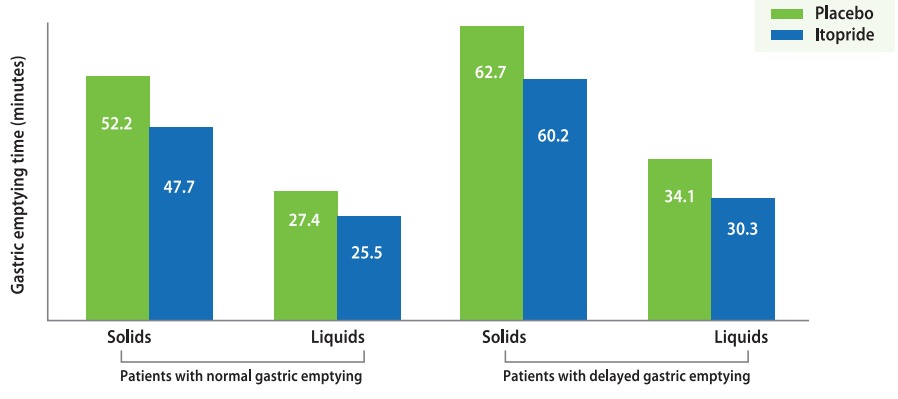
Effect of itopride on gastric emptying in longstanding diabetes mellitus

- Itopride accelerates gastric emptying in patients with long-standing diabetes, showing clear improvements in both solids and liquids vs placebo.
- With a favorable safety profile (no CNS penetration, no QT risk, minimal drug interactions), Itopride offers a safer alternative to older prokinetics such as domperidone.

Study design	Randomized controlled trial			
Population	**Intervention**	**Duration**	**Centre**	**Outcome**
25 diabetic patients	Itopride 200 mg TID vs placebo	7 days	Royal Adelaide Hospital, Australia	Itopride had greater reduction of gastric emptying time in patients with diabetic gastroparesis compared to placebo

Comparison of Itopride and placebo in reducing gastric emptying time in diabetic gastroparesis patients



- In diabetic patients - especially those with delayed gastric emptying - itopride meaningfully accelerates gastric emptying, particularly of liquids, with statistical significance in the delayed subgroup.
- Unlike older prokinetics, itopride combines efficacy with a superior safety profile (no CNS side effects, no cardiac risk, minimal interactions). This makes it a reliable first-line prokinetic choice for managing diabetic gastroparesis in clinical practice.

Ref: Stevens JE, Russo A, Maddox AF, Rayner CK, Phillips L, Talley NJ, Giguère M, Horowitz M, Jones KL. Effect of itopride on gastric emptying in longstanding diabetes mellitus. Neurogastroenterol Motil. 2008 May;20(5):456-63. doi: 10.1111/j.1365-2982.2007.01058.x. Epub 2008 Jan 7. PMID: 18179609.

Itopride hydrochloride
next generation, dual acting gastrointestinal prokinetic for fast & satisfactory relief from symptoms of gastric motility disorders

Itonorm®
Itopride hydrochloride 50 mg tablet
Dual Action. Fast Relief.

Drug Review

Gastric motility disorder[1,2,3,4]

- Gastrointestinal (GI) motility disorders encompass a wide array of signs and symptoms and functional dyspepsia (FD) and gastroparesis are the main associated syndromes.
- FD diagnosed based on the Rome IV criteria- The presence of one or more of the following symptoms: epigastric pain or burning, early satiety, and postprandial fullness in the absence of structural disease.
- Prokinetic agents are the mainstay therapy for FD and gastroparesis, to improve gastric emptying and relieve symptoms.
- Conventional prokinetics (e.g. domperidone, metoclopramide) only block dopamine D2 receptors (DD2R) but have no effect on acetylcholinesterase. Thereby, complete relief of functional dyspepsia symptoms can not be achieved.

Itopride (Itonorm) - next generation dual acting gastrointestinal prokinetic

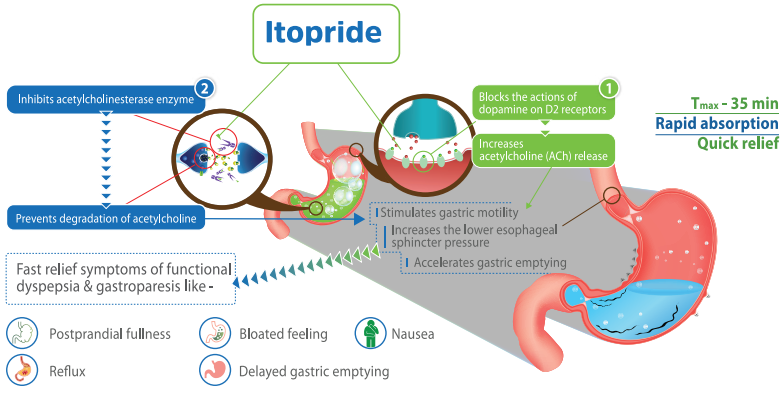


Figure: Mechanism of action of Itopride

Proven Safety and results[6,7,8,9,10]

- Itopride does no cross the BBB hence exerts no CNS effects (e.g. headache, nausea, dyskinesia). It does not cause hyperprolactinemia and has no impact on QT interval, as a result doesn't affect heart rate.
- The drug is metabolized by flavin-containing monooxygenase 3 (FMO3) pathway hence no drug-drug interactions with CYP450 inhibitors.
- Itopride is a relatively safer molecule compared with other prokinetics, with no extrapyramidal symptoms or cardiotoxicity concerns, can be used for long-term in GI motility disorders either alone or in combination with other drugs.
- Itopride has good efficacy in terms of global patients' assessment, postprandial fullness, and early satiety in the treatment of patients with FD and shows a low rate of adverse reactions.
- Significant improvement in glycemic indices was also evident posttreatment with itopride.Itopride showed effectiveness in addressing symptoms of reduced GI motility in patients with diabetes, with improved quality of life.
- Itopride 100 mg t.i.d is effective in decreasing pathologic reflux in patients with GERD and therefore it has the potential to be effective in the treatment of this disease.

Ref.: 1. Brian E. Lacy, Kirsten Weiser; Gastrointestinal Motility Disorders: An Update. Dig Dis 1 July 2006; 24 (3-4): 228–242..; 2. the treatment of dysmotility. EMJ Gastroenterol. 2014;3:42-7.; 3. Oshima T. Functional Dyspepsia: Current Understanding and Future Perspective. Digestion. 2024;105(1):26-33. .; 4. Camilleri M, Atieh J. New Developments in Prokinetic Therapy for Gastric Motility Disorders. Front Pharmacol. 2021 Aug 24;12:711500. ; 5-Dite, Petr & Rydlo, Martin & Dockal, Milan & Martinek, Arnost. (2014).; 6-7. Huang X, Lv B, Zhang S, Fan YH, Meng LN. Itopride therapy for functional dyspepsia: a meta-analysis. World J Gastroenterol. 2012 Dec 28;18(48):7371-7. .; 8-a new prokinetic, in patients with mild GERD: a pilot study. World J Gastroenterol. 2005 Jul 21;11(27):4210-4. ; 9. Rai RR, Choubal CC, Agarwal M, Khaliq AM, Farishta FJ, Harwani YP, Kumar SY. A Prospective Multicentric Postmarketing Observational Study to Characterize the Patient Population with Reduced Gastrointestinal Motility among Indian Diabetic Patients Receiving Itopride: The Progress Study. Int J Appl Basic Med Res. 2019 Jul-Sep;9(3):148-153. .; 10. Chaudhuri, S. (2023). Role and safety of prokinetic drugs in the treatment of upper gastrointestinal motility disorders: an Indian perspective. International Journal of Research in Medical Sciences, 11(10), 3937–3944.

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