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The Bulletin from the Clinical Pharmacist

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Repaglinide: A Short Acting Secretagogue with Strategic Advantages

Category: Meglitinide analogue, Oral insulin secretagogue

Available brands: Eurepa and Novonorm **0.5mg, 1mg, 2mg**

Indication: Type 2 Diabetes mellitus

Dosing (Oral): HbA1c <8%: 0.5mg and HbA1c >8%: 1-2mg upto 4times/day

Dosing in altered kidney function: CrCl <40ml/min, and on dialysis: 0.5mg OD; gradually increase to 0.5mg before each meal (up to 4 times/day)

Mechanism of action: Meglitinides bind to the sulfonylurea receptor-1 (SUR1) on the pancreatic β-cells, leading to the closure of ATP-sensitive potassium (K-ATP) channels which depolarizes the membrane and facilitates calcium entry through calcium channels thereby stimulating insulin secretion. Repaglinide induced insulin release is glucose-dependent.

Oral administration: Administer within 30 minutes before meals

Food Interactions: With food, repaglinide serum levels is decreased and taking it without eating may cause hypoglycemia.

Drug interactions: Antidiabetics, aspirin and quinolones increases the risk of hypoglycemia. Clopidogrel, statins and spironolactone increases repaglinide concentration and thiazides decreases repaglinide concentration.

Adverse reactions

- Headache
- Hypoglycemia
- Upper respiratory tract infection
- chest pain
- Diarrhea
- Back pain
- Arthralgia

Monitoring parameters: Monitor fasting blood glucose.

Advantages with Repaglinide over other antidiabetics:

1. It is a potent and lowers HbA1c and early-phase insulin release to lower PPG excursions.

2. It has a very short half-life and duration of action allowing flexible meal schedules.

3. Severe hypoglycemic episodes are less common with repaglinide compared to sulfonylureas.

4. Causes less weight gain compared to sulfonylureas and glitazones.

5. Preferred oral agent for diabetics with renal impairment due to its predominant hepatic elimination.

Reference:

1. Lexicomp drug reference

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3. Mori K, EmotoM,& et al. Potential advantage of repaglinide monotherapy in glycemic control in patients with type 2 diabetes and severe renal impairment. ActaEndocrinol (Buchar). 2017 Apr-Jun;13(2):133-137.

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