Insulin aspart (in-su-lin as-port)

NovoLOG, Novorapid

Insulin aspart protamine suspension/insulin aspart injection mixture

NovoLog Mix 70/30, Novomix 30

Classification
Therapeutic: antidiabetics, hormones
Pharmacologic: pancreatics

Pregnancy Category B (insulin aspart), C (insulin aspart protamine suspension/insulin aspart injection mixtures)

Indications
Control of hyperglycemia in patients with type 1 or type 2 diabetes mellitus.

Action
Lowers blood glucose by: stimulating glucose uptake in skeletal muscle and fat, inhibiting hepatic glucose production. Other actions of insulin: inhibition of lipolysis and proteolysis, enhanced protein synthesis. A rapid-acting insulin with more rapid onset and shorter duration than human regular insulin; should be used with an intermediate- or long-acting insulin. Therapeutic Effects: Control of hyperglycemia in diabetic patients.

Pharmacokinetics
Absorption: Rapid acting.
Distribution: Identical to endogenous insulin.
Metabolism and Excretion: Metabolized by liver, spleen, kidney, and muscle.
Half-life: Approximately 60–90 min

TIME/ACTION PROFILE (hypoglycemic effect)
ROUTE ONSET PEAK DURATION
Subcut within 15 min 1–2 hr 3–4 hr

Contraindications/Precautions
Contraindicated in: Hypoglycemia; Allergy or hypersensitivity to insulin aspart.

Use Cautiously in: Stress and infection, which may temporarily increase insulin requirements; Renal/hepatic impairment (may increase insulin requirements). Must be used with a long-acting insulin in patients with type 2 diabetes. Concomitant use with phenylpropanolamine or riociguat increases risk of hypoglycemia (risk of renal insufficiency and worsening HF). OB: May temporar-ily increase insulin requirements; Pedi: Children < 1 yr (safety not established).

Adverse Reactions/Side Effects

Interactions
Drug-Drug: Beta blockers and clonidine may mask some of the signs and symptoms of hypoglycemia. Concomitant use with thiazolidinediones, corticosteroids, thyroid supplements, estrogens, niacin, isoniazid, niacin, phenothiazines, and rifampin may increase insulin requirements. Alco-hol, ACE inhibitors, SGLT2 inhibitors, antacids, oral hypoglycemic agents, and statins may increase insulin requirements. Concomitant use with phenylpropanolamine or riociguat increases risk of hypoglycemia (risk of renal insufficiency and worsening HF). Drug-Natural Products: Glucosamine may worsen blood glucose control. Fenugreek, chromium, and coenzyme Q-10 may produce additive hypoglycemic effects.

Route/Dosage
Subcut (Adults and Children): Determined by needs of the patient; generally 0.5–1 units/kg/day total. 50–70% may be given as insulin aspart, and the remainder as intermediate- or long-acting insulin. May also be given via subcutaneous infusion pump. Insulin pump programming based on basal daily dose of insulin given in previous regi-ments with 5% of total daily dose given as prandial boluses and 50% of total daily dose given as basal infusion; dose can then be adjusted based on response.

NURSING IMPLICATIONS
Assessment
High Alert
- Signs for symptoms of hypoglycemia (anxiety; restlessness; tingling in hands, feet, lips, or tongue; chills; cold sweats; confusion; cool, pale skin; difficulty in concentration; drowsiness; nervousness; trouble sleeping; excessive hunger; headache; irritability; nausea; nervousness; somnolence; tachycardia) • Document
tachycardia; tremor; weakness; unsteady gait/hyperglycemia (confusion, drowsiness; flushed, dry skin; fruity-like breath odor; rapid, deep breathing, polyuria; loss of appetite; nausea; vomiting; unusual thirst) during therapy.

- Monitor body weight periodically. Changes in weight may necessitate changes in insulin dose.

- Lab Test Considerations: Monitor blood glucose every 6 hr during therapy, more frequently in times of stress. A1C may be monitored every 3–6 mo to determine effectiveness.

- Toxicity and Overdose: Overdose is manifested by symptoms of hypoglycemia. Mild hypoglycemia may be treated by ingestion of oral glucose. Severe hypoglycemia is a life-threatening emergency; treatment consists of IV glucose, glucagon, or epinephrine.
CONTINUED

insulin aspart

- Advise patient to notify health care professional of all Rx or OTC medications, vitamins, or herbal products being taken and to consult with health care professional before taking other medications.
- Advise patient to notify health care professional of medication regimen prior to treatment or surgery.
- Advise patient to notify health care professional if nausea, vomiting, or fever develops, if unable to eat regular diet, or if blood sugar levels are not controlled.
- Instruct patient on signs and symptoms of hypoglycemia and hyperglycemia and what to do if they occur.
- Advise patient to notify health care professional if pregnancy is planned or suspected or if breast feeding or planning to breast feed.
- Patients with diabetes mellitus should carry a source of sugar (candy, glucose gel) and identification describing their disease and treatment regimen at all times.
- Emphasize the importance of regular follow-up, especially during first few weeks of therapy.

Evaluation/Desired Outcomes

- Control of blood glucose levels in diabetic patients without hypoglycemic or hyperglycemic episodes.

Why was this drug prescribed for your patient?