**clevidipine**  (kle-vi-di-pen)

**Classification**
- Therapeutic: antihypertensives
- Pharmacologic: calcium channel blockers (dihydropyridine)

**Indications**
- Reduction of BP when oral therapy is not feasible/desirable.

**Action**
- Inhibits calcium transport into vascular smooth muscle, resulting in inhibition of excitation-contraction coupling and subsequent contraction. Decreases systemic vascular resistance; does not reduce cardiac filling pressure (preload). Has no effect on venous capacitance vessels.

**Therapeutic Effects:**
- Decreases BP.

**Pharmacokinetics**
- **Absorption:** IV administration results in complete bioavailability.
- **Distribution:** Unknown.
- **Protein Binding:** 99.5%.
- **Metabolism and Excretion:** Rapidly metabolized by esterases in plasma and tissue to inactive metabolites; metabolites are excreted in urine (63–74%) and feces (7–22%).
- **Half-life:** Initial phase—1 min; terminal phase—15 min.

**TIME/ACTION PROFILE**
- **ROUTE** | **ONSET** | **PEAK** | **DURATION**
- **IV** | 2–4 min | 30 min* | end of infusion
- *Time to target BP.

**Contraindications/Precautions**
- **Contraindicated in:** Hypersensitivity; Allergy to soybeans or eggs/egg products; Defective lipid metabolism including pathologic hyperlipidemia, hypertriglyceridemia or acute pancreatitis; Severe aortic stenosis.

- **Use Cautiously in:**
  - Geri: Titrate dose cautiously, initiate therapy at low end of dose range, consider age-related changes in hepatic, renal or cardiac function, concomitant diseases, or other drug therapy.
  - OB: Use only if maternal benefit outweighs potential risk to fetus.
  - Lactation: Consider possible infant exposure.

**Adverse Reactions/Side Effects**
- **CNS:** Headache.
- **CV:** HF, hypotension, rebound hypertension, reflex tachycardia.
- **Resp:** Hypoxemia.
- **GI:** Nausea, vomiting.
- **MS:** Arthralgia.

**Interactions**
- **Drug-Drug:** Risk of excess hypotension with other antihypertensives. Does not protect against effects of abrupt beta blocker withdrawal.

**Route/Dosage**
- **IV (Adults):**
  - Initial dose—1–2 mg/hr.
  - Dose titration—Double dose every 90 sec initially; as BP approaches goal, reduce dose by less than doubling and lengthen the time between dose adjustments to every 5–10 min. Usual dose required is 6–8 mg/hr; final dose required is 4–6 mg/hr. Severe hypertensive patients may require higher doses with a maximum of 10 mg/hr or less. Doses up to 12 mg/hr have been used, but generally should not exceed 25 mg/hr in a 24 hr period due to lipid load.

**NURSING IMPLICATIONS**
- **Assessment:**
  - Monitor BP and heart rate during infusion, and until vital signs stabilize. Hypotension and reflex tachycardia may occur with rapid upward titration. Monitor patients receiving prolonged clevidipine infusions and who have not been transitioned to other antihypertensive therapies for the possibility of rebound hypertension for at least 8 hr after infusion is stopped; additional adjustments may be needed.

**Potential Nursing Diagnoses**
- Ineffective tissue perfusion (indications)

**Implementation**
- **Discontinue clevidipine or titrate downward during initiation of oral therapy, consider time to onset of the oral agent’s effect. Continue BP monitoring until desired effect is achieved.**
IV Administration

- **pH:** 6.0–8.0
- **Intermittent Infusion: Diluent:** Do not dilute. Invert vial gently several times before use to ensure emulsion uniformity prior to administration. Solution is milky white; inspect for particulate matter and discoloration. Commercially available standard plastic cannulae may be used to administer the infusion. Administer via central line or peripheral line. Solution is in single-use vials, discard unused portion if it becomes hypertonic. Store in refrigerator; once emulsion reaches room temperature, stable for 2 hrs, do not re-refrigerate. Administer intermittent infusions intravenously at 1–2 mg/hr. Administer using an infusion device allowing calibrated infusion rates.

- **Y-Site Compatibility:** Water for Injection, USP, 0.9% NaCl, D5W, D5/0.9% NaCl, D5/LR, LR, 10% amino acids.
- **Y-Site Incompatibility:** Do not administer in the same line as other medications.

Patient/Family Teaching

- Inform patient of the rationale for use of clevidipine.
- Advise patients to contact a health care professional immediately if signs of a new hypertensive emergency (neurological symptoms, visual changes, evidence of HF) occur.
- Advise female patients to notify health care professional if pregnancy is planned or suspected or if breast feeding.
- Encourage patients with uncontrolled hypertension to continue follow-up care and to continue taking their oral antihypertensive medication(s) as directed.

Evaluation/Desired Outcomes

- Decrease in BP

Why was this drug prescribed for your patient?