Calcium acetate (kal-see-um-ass-e-tate)
Eliphos, PhosLo, Phoslyra
Classification
Therapeutic: mineral and electrolyte replacements/supplements
Pregnancy Category C
Indications
Control of hyperphosphatemia in end-stage renal disease.
Action
Binds to dietary phosphate to form an insoluble calcium phosphate complex, which is excreted in the feces, resulting in decreased serum phosphate concentrations.
Therapeutic Effects: Control of hyperphosphatemia in end-stage renal disease without promoting aluminum absorption.
Pharmacokinetics
Absorption: Absorption from the GI tract requires vitamin D; 30–40% bioavailability.
Distribution: Readily enters extracellular fluid. Crosses the placenta and enters breast milk.
Metabolism and Excretion: Excreted mostly in the feces; 20% eliminated by the kidneys.
Half-life: Unknown.
TIME/ACTION PROFILE (effects on serum calcium)
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<th>ROUTE</th>
<th>ONSET</th>
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<td>PO</td>
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Contraindications/Precautions
Contraindicated in: Hypercalcemia; Renal calculi; Ventricular fibrillation; Concurrent use of calcium supplements.
Use Cautiously in: Patients receiving digitalis glycosides; Severe respiratory insufficiency; Renal disease; Cardiac disease; OB: Hypercalcemia may affect risk of maternal and fetal complications; Lactation: Breast feeding not expected to harm infant provided that serum calcium levels monitored.

Adverse Reactions/Side Effects
CNS: headache, tingling.
CV: arrhythmias, bradycardia.
F and E: hypercalcemia.
GI: constipation, diarrhea (oral solution only), nausea, vomiting.
GU: calculi, hypercalciuria.

Interactions
Drug-Drug: Hypercalcemia may affect risk of digoxin toxicity. Chronic use with antacids in renal insufficiency may lead to milk-alkali syndrome. Calcium supplements, including calcium-containing antacids may affect risk of hypercalcemia, avoid concurrent use. May affect absorption of orally administered tetracyclines. Fluorapatite, phosphates, and iron salts: take 1 hr before or 3 hr after calcium acetate. Decrease amounts may affect effects of calcium channel blockers. Absorption of estolate and etidronate do not take within 2 hr of calcium acetate. May affect absorption of amiloride. Concurrent use with diuretics (thiazide) may result in hypercalcemia. May affect absorption of sodium polystyrene sulfonate. Drug-Food: Cereals, spinach, or rhubarb may affect absorption of calcium supplements.

Route/Dosage
1 gram of calcium acetate contains 250 mg elemental calcium (12.7 mEq calcium). Doses are expressed as elemental calcium.
PO (Adults):
Hyperphosphatemia in end-stage renal disease—1334 mg with each meal, may gradually (in absence of hypercalcemia) to achieve target serum phosphate levels (usual dose 2001–2668 mg with each meal). Use cautiously in renal insufficiency, OB, lactation.

NURSING IMPLICATIONS
Assessment
- Monitor patient on digitalis glycosides for signs of toxicity.
- Lab Test Considerations: Monitor serum calcium twice weekly during adjustment phase. If serum calcium level is >12 mg/dL, discontinue therapy and start hemodialysis as needed; lower dose or temporarily stop therapy for calcium level between 10.5 and 11.9 mg/dL.
- Monitor serum phosphate levels to determine efficacy.

Potential Nursing Diagnoses
Imbalanced nutrition: less than body requirements (indications)
Implementation

- PO: Administer on an empty stomach before meals to optimize effectiveness in patients with hyperphosphatemia.

Patient/Family Teaching

- Instruct patients on a regular schedule to take missed doses as soon as possible, then go back to regular schedule.
- Advise patient to notify health care professional promptly if signs and symptoms of hypercalcemia (constipation, anorexia, nausea, vomiting, confusion, stupor) occur.
- Advise patient to avoid taking calcium-containing supplements, including calcium-based antacids during therapy.

Evaluation/Desired Outcomes

- Control of hyperphosphatemia in patients with renal failure.

Why was this drug prescribed for your patient?