Parsabiv™ (etelcalcetide) – New Drug Approval

- On February 7, 2017, Amgen announced the FDA approval of Parsabiv (etelcalcetide), for secondary hyperparathyroidism (HPT) in adult patients with chronic kidney disease (CKD) on hemodialysis.
    - Parsabiv has not been studied in adult patients with parathyroid carcinoma, primary HPT, or with CKD who are not on hemodialysis and is not recommended for use in these populations.
- Secondary HPT refers to the excessive secretion of parathyroid hormone (PTH) by the parathyroid glands in response to decreased renal function and impaired mineral metabolism. The condition affects about 468,000 people on dialysis in the U.S.
    - Approximately 88% of CKD patients on hemodialysis will develop secondary HPT.
    - The elevated levels of PTH can lead to an increase in the release of calcium and phosphate from the bones.
- Parsabiv binds to and activates the calcium-sensing receptor on the parathyroid gland, causing decreases in PTH.
- The safety and efficacy of Parsabiv were evaluated in two 26-week randomized, double-blind, placebo-controlled trials enrolling 1,023 patients on hemodialysis with moderate-to-severe secondary HPT. The primary outcome measure was the proportion of patients with > 30% reduction in PTH levels from baseline during the efficacy assessment phase (weeks 20 – 27).
    - In both studies, a significantly greater proportion of patients treated with Parsabiv achieved the primary endpoint vs. placebo patients (Study 1: 77% vs. 11%; Study 2: 79% vs. 11%; $p < 0.001$ for both studies).
    - In addition, significantly more Parsabiv-treated patients achieved PTH levels $\leq$ 300 pg/mL than placebo patients (Study 1: 52% vs. 6%; Study 2: 56% vs. 5%; $p < 0.001$ for both studies).
    - In both studies, a significantly greater reduction in mean PTH, corrected serum calcium and serum phosphate levels from baseline was achieved in the Parsabiv-treated patients vs. placebo-treated patients.
- Warnings and precautions of Parsabiv include hypocalcemia, worsening heart failure, upper gastrointestinal bleeding, and adynamic bone.
- The most common adverse reactions (≥ 5%) with Parsabiv use were decreased blood calcium, muscle spasms, diarrhea, nausea, vomiting, headache, hypocalcemia, and paresthesia.
- The recommended starting dose of Parsabiv is 5 mg administered by intravenous bolus injection three times per week at the end of hemodialysis treatment.
    - The maintenance dose of Parsabiv is individualized and determined by titration based on PTH and corrected serum calcium response.
    - The lowest maintenance dose of Parsabiv is 2.5 mg three times per week, and the highest maintenance dose is 15 mg three times per week.
    - Serum calcium levels should be measured within 1 week after initiation or dose adjustment and every 4 weeks for maintenance.

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    - — Stop Parsabiv and treat hypocalcemia if the corrected serum calcium falls below 7.5 mg/dL or patients report symptoms of hypocalcemia.

- Amgen's launch plans for Parsabiv are pending. Parsabiv will be available in single-dose vials in three strengths: 2.5 mg/0.5 mL, 5 mg/mL, and 10 mg/2 mL.