PDL NEW DRUG REVIEW

Proprietary Name: Auryxia®
Common Name: ferric citrate
PDL Category: Phosphate Binders

Comparable Products	Preferred Drug List Status
Renagel	Preferred
Renvela	Non-Preferred
Velphoro	Non-Preferred

Summary

Indications and Usage: For the control of serum phosphorus levels in patients with chronic kidney disease on dialysis. This is a pregnancy category B medication. The safety and efficacy of use in children have not been established.

Dosage Forms: Tablets: 210mg ferric iron, equivalent to 1g ferric citrate

Recommended Dosage: Take 2 tablets TID with meals. Titrate per serum phosphorus levels in decrements or increments of 1 to 2 tablets per day as needed to maintain serum phosphorus target levels; the maximum recommended dose is 12 tablets daily. In clinical trials, an average of 8 to 9 tablets daily was needed to maintain serum phosphorus levels.

Increases in serum ferritin and transferrin saturation (TSAT) levels were reported in clinical trials. It is therefore recommended to assess iron parameters prior to starting and while on treatment.

Doxycycline should be taken at least one hour before Auryxia®.

Common Adverse Drug Reactions: *Placebo/active comparator % incidence data was not found.* The most commonly reported adverse events included diarrhea (21%), nausea (11%), constipation (8%), vomiting (7%), and cough (6%). While Auryxia® is associated with discolored feces due to the iron content, it is not clinically relevant and does not affect laboratory tests for occult bleeding.

Safety of use in those with inflammatory bowel disease or active symptomatic gastrointestinal bleeding has not been established.

Contraindications: In patients with iron overload syndromes (e.g. hemochromatosis)

Manufacturer: Keryx Biopharmaceuticals

Analysis: Ferric citrate, the active ingredient of Auryxia®, is a phosphate binder. It binds to dietary phosphate in the GI tract and precipitates as ferric phosphate. This compound is then excreted in the stool and thus lowering serum phosphorus levels.

The safety and efficacy of Auryxia® were assessed in one 56-week randomized, active- and placebo-controlled trial and one 4-week open-label study of fixed-doses. In the first study, those with a mean phosphorus level of 7.5mg/dl during the washout were randomized to Auryxia® (N=292) or active control (calcium acetate and/or sevelamer carbonate; N=149). The dose of the phosphate binders was adjusted to maintain serum phosphorus levels between 3.5 and 5.5mg/dl, to a maximum of 12 tablets per day. After starting treatment, serum phosphorus levels declined and were maintained over 52 weeks. Significant differences between treatments were not seen. After the 52 week of active-control, the Auryxia® treated group was eligible to enter into a 4-week placebo-controlled randomized withdrawal phase. Subjects were re-randomized to receive Auryxia® (N=96) or placebo (N=96). During these last 4 weeks, the serum phosphorus level increased by 1.79mg/dl in the placebo group and decreased by -0.24mg/dl in the Auryxia® group ($p<0.0001$).

In the fixed-dose study, 154 subjects with hyperphosphatemia and chronic kidney disease (CKD) on dialysis were randomized to 1, 6, or 8 tablets/day of Auryxia® for 4 weeks. The reductions from baseline to week 4 in mean serum phosphorus was significantly greater with those taking 6 and 8 tablets/day vs 1 tablet/day ($p<0.0001$), with mean reductions in serum phosphorus being 1.9mg/dl and 2.1mg/day vs 0.1mg/dl, respectively.

Place in Therapy: One noted reference source suggested that non-dialysis CKD patients with eGFR <60ml/min/1.73m^2 maintain serum phosphorus levels in the normal range (i.e. <3.5mg/dl), while dialysis patients maintain serum phosphorus levels between 3.5 and 5.5mg/dl. Phosphate binder use is suggested for persistent hyperphosphatemia.[2] Auryxia® (ferric citrate) is a phosphate binder that was found to be as effective as calcium acetate and sevelamer carbonate.

There is no data found to suggest that Auryxia® is safer or more effective than the currently available, more cost-effective medications. It is recommended that Auryxia® remain non-preferred and require prior authorization and be available to the few who are unable to tolerate or who have failed on preferred medications.

PDL Placement:

- ☐ **Preferred**
- ☒ **Non-Preferred**
- ☐ **Preferred with Conditions**

References

[1] Auryxia [package insert]. New York, NY: Keryx Biopharmaceuticals, Inc; 2014.

[2] UpToDate Desktop version. Treatment of hyperphosphatemia in chronic kidney disease. Accessed April 2015.