East and North Hertfordshire NHS Trust

Trust-wide Guideline

For

Use of Oral Lanthanum for Hyperphosphataemia in Adult* Patients with Chronic Kidney Disease

Shared Care Guideline

Accepted for use with permission, and ratified by Bedfordshire and Luton Joint Prescribing Committee, September 2019

A guideline recommended for use

In: East and North Herts NHS Trust Hertfordshire, Bedfordshire and Luton Clinical Commissioning Groups

By: Renal doctors in East and North Herts NHS Trust, GPs, Hospital Pharmacists**,** Community Pharmacists

For: Cases of hyperphosphataemia in adult* patients (ie aged 18 yrs and above) with chronic kidney disease, cared for by East and North Herts NHS Trust

Key Words: Lanthanum, phosphate binders, hyperphosphataemia, chronic kidney disease

Written by: Clare Morlidge
Renal Pharmacist

Supported by: Dr Suresh Mathavakkannan
Renal Consultant

Approved by: Therapeutics Policy Committee

Dr Adie Viljoen (Chair)

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Trust Ratification: J Evans

J. Evans

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To be reviewed by: Renal Pharmacist

CGSG Guideline Registration No. 124 **Version No.** 3

Version	Date	Comment
1	October 2012	New Guideline
2	April 2015	Scheduled Review
3	May 2018	Scheduled Review

Equality Impact Assessment
This document has been reviewed in line with the Trust's Equality Impact Assessment guidance and no detriment was identified. This policy applies to all regardless of protected characteristic - age, sex, disability, gender-re-assignment, race, religion/belief, sexual orientation, marriage/civil partnership and pregnancy and maternity.

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Associated Documentation

Sevelamer in Adults Shared Care CGSG 123

Review
This document will be reviewed within one year of issue, or sooner in light of new evidence.

Contents

ORAL LANTHANUM FOR ADULTS – SHARED CARE GUIDELINE

Part One: Shared Care Responsibilities of Specialist, GP and Patient for Use of Oral Lanthanum

The following guidelines are designed to provide information relating to the phosphate binder lanthanum and to outline the responsibilities of the Primary and Secondary Care Teams in the prescribing of this drug.

Scope of Shared Care Guidelines

Following the re-organisation of the NHS in April 2013, lanthanum for dialysis patients is commissioned by NHSE. Lanthanum for dialysis patients is a tariff-exempt drug and any cost incurred from its prescribing should be charged to the Specialist Commissioning team. Both the CCGs and the hospital are able to do this. Lanthanum for non-dialysis patients is commissioned by the CCGs. Lanthanum is indicated as being suitable for shared-care.

This position has been clarified with the local area team for NHSE and communicated to Beds and Herts CCGs.

Type of Patient	Shared Care with GP	Reason
Patient on Dialysis	Yes *	Commissioning responsibility with NHSE
Patient with CKD and not on dialysis	Yes	Commissioning responsibility with CCG

*For dialysis patients on lanthanum the CCG is able to reclaim the cost of prescribing from NHSE.

Sharing care assumes communication between the Specialist, GP and patient. The intention to share care should be explained to the patient by the doctor or non-medical prescriber (NMP) initiating treatment. It is important that patients are consulted about treatment, are in agreement with it and are able and willing to be accountable for the roles set out in their list of responsibilities.

NB The doctor or NMP who prescribes the medication legally assumes clinical responsibility for the drug and the consequences of its use.

1. HOSPITAL SPECIALIST RESPONSIBILITIES

- Diagnose and select appropriate patients for treatment.
- **NB** this is a second line treatment, so patients should have tried sevelamer first or have a patient preference for lanthanum formulations.
- Discuss the potential benefits and side effects of treatment with the patient.
- Carry out baseline monitoring requirements, communicate to GP and provide treatment for one month.
- Ask the GP whether s/he is willing to participate in shared care and furnish with a copy of this guideline

- Where a GP is not able to accept clinical responsibility for the patient, the hospital to prescribe.
- Monitor patient's response to therapy and communicate via letter to the GP when treatment is changed.
- Monitor serum phosphate and calcium levels as outlined on page 9 and communicate to GP.
- Monitor the patient for any side-effects to the lanthanum therapy and inform the GP via letter if any occur.
- Advise the GP on when to adjust the dose, stop treatment or consult with specialist.
- Be available to give advice to GP and ensure that clear backup arrangements exist for GPs to obtain advice and support.
- Specify formulation prescribed in correspondence.
- Decide when to stop therapy.
- Report adverse events to the Medicines and Health Products Agency (MHRA), the Commission on Human Medicines (CHM) and the GP.

2. GENERAL PRACTITIONER RESPONSIBILITIES

- Reply to the request for shared care as soon as possible.
- Prescribe lanthanum and specify formulation on the prescription as recommended by the Hospital Specialist.
- Monitor the patient for any side-effects to lanthanum therapy and refer back to Specialist should any serious side effects occur.
- Adjust the dose as advised by the Specialist.
- Stop treatment on the advice of the Specialist or advise patient to stop immediately if an urgent need to stop treatment arises, such as bowel obstruction.
- Check for drug interactions before starting new medicines see page 9.
- Report adverse events to the specialist and MHRA/CHM.
- Encourage the patient to use the same Community Pharmacy to ensure continuity of supply and advice.

3. PATIENT'S ROLE

- Take the lanthanum as prescribed.
- Report to the Specialist or GP if s/he does not have a clear understanding of the treatment.
- Where possible, always use the same Community Pharmacy to ensure continuity of supply and advice. Provide a copy of the Shared Care Guideline (SCG) to your chosen Community Pharmacist.
- Share any concerns in relation to treatment with lanthanum with the Specialist or GP.
- Inform Specialist, or GP, of any other medication being taken, including over-the-counter products.
- Report any adverse effects or warning symptoms to the specialist or GP whilst taking lanthanum and complete a yellow card for the MHRA/CHM.
- Discuss the use of any newly prescribed medication with the GP before starting it, and any non-prescribed medication with the Community Pharmacist before taking it. Inform the Pharmacist that s/he is on lanthanum before purchasing any over-the-counter medication.

4. COMMUNITY PHARMACIST'S ROLE

- Encourage the patient to use the same Community Pharmacy to ensure continuity of supply and advice.
- Order and dispense the lanthanum.
- Inform the patient / carer how long it takes to order and if there are any supply problems.
- Inform hospital pharmacy if there are any long term supply problems.
- Provide medicines advice to patient / carer as necessary
- Any problems with supply, phone:

- Shire (Fosrenol® lanthanum) 0203 0448930

5. CONTACT NUMBERS

Specialist	Designation	Contact Number
Nephrology secretaries to:		
Prof Farrington/ Dr Vilar	Consultant Nephrologists	01438
Dr Thompson/Dr Greenwood	Consultant Nephrologists	284230
Dr Chadna	Consultant Nephrologist	01438
Dr Suresh	Consultant Nephrologist	284309
Clare Morlidge	Renal Pharmacists	01438 284677 or 01438 314333 bleep 0931
Gail Franklin Lize Jansen van Rensburg Sara Gray	Renal Dietitians	01438 284947 Pager 07659183135 Mobile 07557150301
Hospital Pharmacy Department		01438 284032
Hospital Switchboard		01438 314333

Outside normal working hours there is access to a Consultant Nephrologist via the hospital switchboard

Part Two: Supporting Information

1. BACKGROUND

Disturbance of mineral metabolism is a common complication associated with chronic kidney disease (CKD). As renal function declines parathyroid hormone levels start to rise, this is driven by a fall in calcitriol production, hypocalcaemia and hyperphosphataemia.

The management of hyperphosphataemia is crucial, and is one of the most important factors in the development of secondary hyperparathyroidism (SHPT). SHPT contributes significantly to the high incidence of morbidity and mortality seen in people with CKD. The management of hyperphosphataemia involves dietary restriction of phosphate, the use of oral phosphate binders and adequate dialysis (CKD stage 5). Available data and opinion suggests that dietary phosphate restriction should be initiated when parathyroid hormone levels start to rise, and/or when serum phosphate levels are elevated. As dietary restriction alone is unlikely to control serum phosphate levels in CKD stage 4 and 5, phosphate binders will be required.

Phosphate binders are indicated for the control of hyperphosphataemia in adult patients with chronic kidney disease. A number of phosphate binders are available which may be used in the context of a multiple therapeutic approach, and these include calcium carbonate (Calcichew®), calcium acetate (PhosLo®), aluminium hydroxide (Alucaps®), sevelamer hydrochloride (Renagel®), sevelamer carbonate (Renvela®) and lanthanum (Fosrenol®). These products may be used in combination with 1α-hydroxycholecalciferol (alfacalcidol) or one of its analogues or cinacalcet to control the development of renal bone disease.

NICE guideline CG157 March 2013 recommends the use of the calcium-based phosphate binder calcium acetate as the initial binder therapy for patients with chronic kidney disease, in conjunction with dietary phosphorous restriction, to control phosphorus and parathyroid levels. If patients are unable to tolerate calcium acetate, calcium carbonate may be used. If hypercalcaemia develops with the use of calcium based binders, it may be necessary to convert to a non calcium-containing phosphate binder, or to use a combination of both. Aluminium-based phosphate binders are used for short-term therapy due to the risks of accumulation.

Phosphate levels to be aimed for are, 0·9 – 1·5mmol/l in CKD stage 4, 1·1 – 1·7mmol/l CKD stage 5 and patients on dialysis (NICE CG157).

For patients on haemodialysis corrected calcium and phosphate are monitored monthly. For non-haemodialysis patients, corrected calcium and phosphate are monitored at each clinic visit, and more frequently if there are concerns.

Adapted from the Renal Department Clinical Practice Guideline for the Management of Chronic Kidney Disease, Mineral and Bone Disorder (CKD-MBD).

2. LICENSED INDICATIONS

Lanthanum is indicated as a phosphate binding agent for use in the control of hyperphosphataemia in chronic renal failure patients on haemodialysis or continuous ambulatory peritoneal dialysis (CAPD). It is also indicated in adult patients with CKD who are not on dialysis but who have a serum phosphate level >1·78mmol/L that cannot be controlled by a low phosphate diet alone.

3. DOSAGE AND ADMINISTRATION

Lanthanum is available as tablets containing 500, 750 or 1,000 mg.

Lanthanum should be taken with or immediately after food, with the daily dose divided between phosphate-containing meals. Tablets must be chewed and **not** swallowed whole.

Serum phosphate levels should be monitored and the dose of lanthanum titrated every two to three weeks until an acceptable serum phosphate level is reached, with regular monitoring thereafter.

Control of serum phosphate level has been demonstrated at doses starting from 750 mg per day. The maximum dose studied in clinical trials, in a limited number of patients, is 3,750 mg. Patients who respond to lanthanum therapy usually achieve acceptable serum phosphate levels at doses of 1,500 to 3,000 mg lanthanum per day.

The safety and efficacy of lanthanum has not been established in patients aged < 18 yrs.

Lanthanum (Fosrenol®) is also available as a 750mg and 1,000 mg powder for suspension for those who have difficulty swallowing tablets.

4. CONTRAINDICATIONS

Lanthanum is contraindicated in patients with:

- **Hypo**phosphataemia

It is not recommended in pregnancy or lactation.

It is cautioned for use in acute peptic ulcer, ulcerative colitis, Crohn's disease and bowel obstruction.

5. THERAPEUTIC USE

Lanthanum is the **second line** non-calcium containing phosphate binder of choice for the Department of Renal Medicine East & North Herts NHS Trust.

6. SIDE EFFECTS

In trials, common adverse effects affecting 1 – 10% of patients were mainly gastrointestinal events: Nausea, vomiting, diarrhoea, stomach pain, constipation, heartburn, flatulence and hypocalcaemia. Other adverse events reported included clotting of the haemodialysis graft, myalgia and cough.

Uncommon reactions also reported in trials (affecting between 1 in a thousand and 1 in a hundred patients): Gastroenteritis, laryngitis, eosinophilia, hyperparathyroidism, hypercalcaemia, hyperglycaemia, hyperphosphataemia, hypophosphataemia, anorexia, appetite increased, dizziness, headache, taste alteration, vertigo, eructation, indigestion, irritable bowel syndrome, dry mouth, oesophagitis, stomatitis, loose stools, tooth disorder, gastro-intestinal disorder (not otherwise specified), alopecia, itching, pruritus, erythematous rash, sweating increased, arthralgia, myalgia, osteoporosis, asthenia, chest pain, fatigue, malaise, peripheral oedema, pain, thirst, blood aluminium increased, increase in GGT, increases in hepatic transaminases, alkaline phosphatase increased, weight decrease.

Transient QT changes have been observed but these were not associated with an increase of cardiac adverse events.

Although there have been a number of additional isolated reactions reported, none of these reactions are considered unexpected in this patient population.

7. MONITORING

The SPC recommends monitoring levels of serum phosphorus and calcium.

Once on established therapy the Hospital Renal Unit will carry out:

- Monthly serum phosphate and calcium levels **AND**
- 3 monthly serum iParathyroid Hormone levels

Predialysis patients will have their phosphate levels monitored at each clinic visit and more frequently if there are any issues.

8. DRUG INTERACTIONS

Lanthanum possibly reduces absorption of ketoconazole and levothyroxine – give at least 2 hours apart.

Lanthanum possibly reduces absorption of chloroquine and hydroxochloroquine – give at least 2 hours apart.

Interactions with drugs such as tetracycline, doxycycline and the floxacins are theoretically possible and if these compounds are to be co-administered, it is recommended that they not be taken within 2 hours of dosing with lanthanum (Fosrenol®).

For further information see:

The BNF at www.bnf.org/bnf **OR**

Summary of product characteristics at www.medicines.org.uk.

9. COST

At current prices one year's lanthanum treatment at doses of 1,500 to 3,000 mg (tablets or sachets) daily costs £1,509.40 to £2,355.34 (www.medicines.org.uk May 2014)

Doses should be optimised to provide the most cost-effective regimen

10. REFERENCES

- Shire Pharmaceuticals Ltd. Fosrenol 500 mg, 750 mg and 1,000 mg tablets Summary of Product Characteristics 2013 *www.medicines.org.uk*
- *Hyperphosphataemia in chronic kidney disease: Management of hyperphosphataemia in patients with stage 4 or 5 chronic kidney disease. March 2013.* NICE clinical guideline 157 *www.nice.org*
- KDIGO 2009. *Clinical Practice Guideline for the Diagnosis, Evaluation, Prevention, and Treatment of Chronic Kidney Disease-Mineral and Bone Disorder (CKD-MBD).* Official journal of the international society of nephrology. 76; SUPPLEMENT 113: August 2009