York and Scarborough Teaching Hospitals
NHS Foundation Trust

# Conservative Management of Uraemia

Information for Health Professionals

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# Introduction

This leaflet is a guide to the pharmacological management of symptoms experienced by patients with advanced kidney failure. It is intended to be used when dialysis is not the preferred management option and the focus is on symptom control. It should be used as a supplement to the current guidelines available from the palliative care team in ‘The Palliative Care Formulary’, the renal End of Life pathway prescribing algorithms and opioid dose conversion tables.

For some people renal replacement therapy is not the treatment of choice for their end stage kidney failure. Dialysis may not prolong life, particularly in the very frail or those with severe co-morbid disease. It is still important to look for and control symptoms that may be caused by kidney failure. Many patients can live for months or even years with an eGFR of less than 10mL per minute. A decision not to undergo dialysis does not mean that the patient is refusing treatment or that a therapy is being withheld. It may simply be the best treatment option for the patient.

# Withdrawal from dialysis

Some patients decide to withdraw from dialysis treatment. This decision is usually made in relation to another illness causing increasing problems or because dialysis itself has become too much of a burden. This can be a very difficult decision for patients. The renal team hope to support the patient, their family and other professionals involved at this time. The role of the renal specialists varies between patients. They may be very involved if their particular expertise is needed.

Alternatively, they may have little involvement if their skills are not needed. Members of the team are always available for advice. From our experience, once a patient has withdrawn from dialysis they usually die very quickly, often within days. Occasionally patients may live up to a few weeks. They may die of other illnesses and not necessarily from kidney failure. This often depends on how much residual kidney function they have.

## Anaemia

Most patients with reduced kidney function will develop anaemia. Anaemia can both cause and exacerbate symptoms, including lethargy, tiredness, dyspnoea, angina, itching, reduced exercise tolerance and cognitive impairment. Anaemia can be controlled with either subcutaneous erythrocyte stimulating agent (ESA) or repeat blood transfusion. Maintaining the haemoglobin in the treatment range with ESA may be preferable to waiting for symptoms and then offering blood transfusion.
While ESA use entails a burden for patients, their carers and the healthcare system, so does hospital admission for blood transfusion. In a patient with a life expectancy of more than three months, ESA is probably the more sensible approach. Prescriptions for ESA are arranged through the hospital using a home delivery service.

## Anorexia

Decreasing appetite is a frequent consequence of advanced kidney failure. While there is no specific treatment for this, dietetic review by an experienced renal dietitian will often help both the patient and their carers manage this symptom.

# Nausea and Vomiting

Nausea and vomiting can be managed conventionally with oral medication. Haloperidol 0.5 to 3mg at night (first line, starting with the lowest dose) or cyclizine 25 to 50mg three times a day are suitable options. If patients find taking tablets a problem then buccal prochlorperazine 3mg twice daily may be helpful.

Metoclopramide 10mg three times a day can be considered if other medications have been unsuccessful. Domperidone is another alternative that may be considered. It is not as effective as metoclopramide and cannot be used in a syringe driver. If individually the oral drugs are ineffective, cyclizine may be added to haloperidol. If this combination is not effective then discontinue and start levomepromazine 6.25mg at night and increase slowly to 6.25mg three or four times a day (maximum 25mg daily).

In the terminal phase of uraemia, a subcutaneous infusion may be required:

a) Haloperidol 0.5mg to 5mg over 24 hours

b) Levomepromazine 5mg to a maximum of 25mg over 24 hours

c) Cyclizine 50mg to 150mg may be used but should be used with caution in patients with cardiac disease. Cyclizine must not be mixed with alfentanil in a syringe driver.

**Note:** Cyclizine is no longer supplied routinely as an anticipatory medicine through the hospital. This means that patients discharged with a syringe driver chart will not have a supply of cyclizine at home.

**Note: Patients with Parkinson's Disease:**

Haloperidol, metoclopramide and levomepromazine should be avoided if possible. Ondansetron is a suitable alternative, starting at 4mg to 8mg 8 to 12 hourly when required. In the syringe driver a dose or 8 to 16mg over 24 hours can be used increasing to a maximum of 32mg over 24 hours.

# Pain

Pain is not usually a feature of uraemia. However patients electing not to start, or to withdraw from renal replacement therapy, may have other conditions causing pain.

Management of pain will be different in end of life care. The care of the dying pathway prescribing algorithms and opioid dose conversion tables should offer a useful guide. Whenever possible we avoid using morphine in renal impairment since it accumulates quickly causing side effects. Pain management is complicated by:

a) Accumulation of opioid metabolites in renal failure. These metabolites are not effective analgesics but do cause respiratory depression. This is a problem with both codeine and dihydrocodeine as well as with morphine.

b) The desire to avoid non-steroidal inflammatory drugs, although this may be less important in the terminal phases of uraemia.

A sensible stepwise approach to pain is:

1. Try regular paracetamol up to 1g four times a day.

2. Try tramadol up to 50mg starting twice daily and increasing to three times a day if tolerated.

3. If ineffective consider topical fentanyl (as a patch) starting at 6 to 12 microgram/hour over 72 hours (the matrix patches may be cut in half diagonally) and increase as needed. Remember that fentanyl patches take 12 or more hours to reach therapeutic levels and other agents, e.g. oxycodone liquid will be needed for immediate pain control. Some patients may do better if the patch is changed every 48 hours. Fentanyl can still accumulate in renal failure, but this is less common than with morphine.

4. Oxycodone (2.5 to 5mgs every four to six hours) is an alternative and does not accumulate as much as morphine in renal failure. Short acting oxycodone immediate release capsules or liquid can be used initially and longer acting oxycodone MR tablets substituted once the required dose is clear.

In severe pain, patients may require a continuous subcutaneous infusion. If a patient has a fentanyl or buprenorphine patch in situ, keep the patch on. Top up with subcutaneous opioid and if more than two doses are required begin a subcutaneous infusion. The preferred subcutaneous opioids in renal failure are oxycodone and alfentanil. Opioid naïve patients may require subcutaneous alfentanil 500microgram to 2mg over 24 hours or oxycodone 3mg to 15mg over 24 hours. Alfentanil has a very short half-life and pain will recur quickly if infusion is interrupted. Syringe driver doses and breakthrough cover should take into account previous oral opioid use and any patches that are in situ.

Please consult the opioid conversion charts (available on the back of the anticipatory medicines and syringe driver chart). Diamorphine and morphine are not recommended in renal failure but can be used with caution until the preferred preparation can be obtained. They will accumulate rapidly in renal failure so always use the lowest effective dose (starting with no more than 5 to 10mg over 24 hours in an opioid naïve patient).

## Cramp and Myoclonus

Cramp can be managed with oral gabapentin (unlicensed). Gabapentin accumulates in renal failure and an appropriate starting dose is 100mg orally **three times a week** increasing to 100mg daily. The dose can be further increased as tolerated. Drowsiness may limit the dose that can be used. Pregablin starting at 25mg daily and increasing to 75mg daily may be an alternative if gabapentin is not tolerated. Clonazepam 0.5 to 1mg at night may help, although often wears off quickly. Quinine sulphate is not helpful and no longer recommended.

## Itching

Uraemic itching can be extremely distressing. Use emollients e.g. Diprobase or Zerobase or Zerodouble gel liberally to keep the skin moist. Crotamiton (Eurax) cream or menthol 1% in aqueous cream may be helpful.

Antihistamines can be effective. Loratadine (10mg daily) or cetirizine (5mg daily, reduced dose) cause less sedation than chlorphenamine (starting dose 4mg daily up to three times a day), although the sedating properties of chlorphenamine may be useful, particularly for nocturnal itch. Hydroxyzine may also be an effective alternative. Use of gabapentin for itching is an unlicensed indication, but there is a lot of clinical experience demonstrating its effectiveness. Doses should start at 100mg three times a week, increasing slowly to 100mg daily if effective. Mirtazepine and ondansetron may also be effective however we have little experience of them in patients with renal failure.

## Dyspnoea

Dyspnoea is usually due to either pulmonary oedema or due to worsening acidosis. If the patient still passes urine then high doses of furosemide (120 to 500 mg/day) may be effective. In the terminal stages of uraemia opioids by continuous infusion will reduce pulmonary oedema and relieve symptoms.

In patients with a lot of upper airway secretion, hyoscine butylbromide (40 to 120 mg over 24 hours) may be effective. Additional doses of 20mg up to a maximum of 240mg in 24 hours may be needed.
Hyoscine butylbromide is preferred in renal failure since it is less sedating than hyoscine hydrobromide. It should also be noted that the doses differ.

Acidosis may be corrected with a combination of oral sodium bicarbonate (1.2 to 2.4g up to qds) and furosemide.

## Restlessness and Anxiety

Oral diazepam (2 to 5mg three times a day or once daily at night) or lorazepam (500microgram oral or sublingual three times a day, tablets can be dissolved in the mouth or in a small volume of warm water) can be used in these patients and may be more effective than midazolam for anxiety. If swallowing is a problem consider subcutaneous midazolam starting at 2mg as required up to 5 to 10mg over 24 hours.

# Terminal Agitation

In the final hours of uraemia agitation can develop. At this stage the patient is usually unaware of symptoms and may be comatose with involuntary movements. This will be very distressing for relatives and carers. Continuous subcutaneous midazolam 5 to 30 mg over 24 hours may control symptoms effectively. Midazolam is not tolerated by some patients. Diazepam may not be suitable at this stage because it must not be used in a subcutaneous syringe driver. If benzodiazepines are ineffective consider levomepromazine for its sedative effects (5 to 25 mg over 24 hours increased as necessary in increments of 12.5 to 25mg up to a maximum of 50mg) depending on severity. If symptoms remain uncontrolled at these doses further advice should be obtained.

In the terminal phase of uraemia, if pain and breathlessness are causing agitation, when required or continuous subcutaneous opioid should be administered. Alfentanil or oxycodone are preferable to morphine or diamorphine in renal failure as they are less likely to accumulate (see section on pain management). A starting dose of alfentanil would be 1mg over 24 hours with ‘when required’ doses of 200microgram (0.2mg) every two to four hours or oxycodone 5mg to 10mg over 24 hours with a ’when required’ dose of 1 to 2mg every four hours.

# Contacts

Renal Consultant:……..

Can be contacted via his secretary during office hours on……..

Duty Nephrologist:

Can be contacted via switchboard

Named contact in the Renal Team:

Name:……..

Job Title:……..

Can be contacted during office hours on:

……..

Renal Social Worker:……

Can be contacted during office hours on:

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## Tell us what you think of this leaflet

We hope that you found this leaflet helpful. If you would like to tell us what you think, please contact:
Dr C H Jones, Consultant Physician & Nephrologist, The York Hospital, Wigginton Road, York, YO31 8HE or telephone 01904 725374.

## Teaching, Training and Research

Our Trust is committed to teaching, training and research to support the development of health and healthcare in our community. Healthcare students may observe consultations for this purpose. You can opt out if you do not want students to observe. We may also ask you if you would like to be involved in our research.

## Patient Advice and Liaison Service (PALS)

PALS offers impartial advice and assistance to patients, their relatives, friends and carers. We can listen to feedback (positive or negative), answer questions and help resolve any concerns about Trust services.

PALS can be contacted on 01904 726262, or email yhs-tr.patientexperienceteam@nhs.net.

An answer phone is available out of hours.

## Leaflets in alternative languages or formats

If you would like this information in a different format, including braille or easy read, or translated into a different language, please speak to a member of staff in the ward or department providing your care.

Patient Information Leaflets can be accessed via the Trust's Patient Information Leaflet website: www.yorkhospitals.nhs.uk/your-visit/patient-information-leaflets/


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