Practical Nephrology

Thinking about the future, symptom control, and other aspects of palliative care in advanced CKD

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Abstract

Palliative and supportive care have always been important for those with advanced CKD, but - until recently – there has been little research or evidence to inform best care. This is changing rapidly. This chapter draws on recent evidence to provide an overview of best practice in assessing and identifying supportive care needs, and in planning ahead to ensure optimal care for the future (advance care planning). Without advance care planning, deteriorating health is often poorly managed for those with advanced CKD, and care is not in accordance with the preferences of the individual person affected. The best evidence is also provided on how to manage common symptoms which frequently occur as the disease progresses.

Introduction

As we build health care services that are fit for future purpose, there are multiple challenges ahead. By 2040, we will have an increasingly aged population with a greatly increased number of deaths (1). We are facing a rise in multimorbidity at all ages (2) but especially connected with deprivation (3). We know that people with multimorbity are more likely to die in hospital (4) but this is not where most people choose to be cared for towards the end of their life (4, 5).

Thinking about the future

As CKD advances and life expectancy reduces, the priorities and preferences of people with CKD change. Many people with advanced CKD and their families place increasing priority on quality of life, symptom control, and psychological/social concerns, over extension of life (6). It is important, therefore, that renal professionals adjust the goals of care to match these changing priorities. This work involves understanding something of the priorities, preferences, and psychosocial circumstances of the patient, relationships within the family, and wider cultural and religious contexts, in order to support patients and families to plan ahead (advance care planning). Without planning ahead, the last months and weeks of life are likely to be much more difficult.

The fundamental purpose of an advance care plan is to represent the priorities of the patient in the face of future circumstances as health declines (7). Without it, priorities are not met, preparation is denied, and bereavement may be more traumatic. Patients with advanced CKD expect their doctors to talk about the future (8), yet advance care planning can be met with ambivalence by both patients and families (9). Nevertheless, evidence shows that – with hindsight - it is valued for improving choice and enabling preparation (10). There is evidence too that bereavement outcomes for families are improved with advance care planning (11).

Most patients with advanced CKD needing palliative care are older people with multimorbidity. They have variable and often complex needs with symptoms that are often unaddressed. Comorbidites such as stroke, Parkinsons disease and dementia can affect the individual's mental capacity to take part in decision-making. In such cases, assessing mental capacity and optimising participation in decision-making where possible is important. Ascertaining whether any member of the family can legally and ethically represent the patient's best interests for medical decision making is also a crucial part of patient care.

Although detailed evidence about palliative needs and interventions in advanced CKD remains limited, the symptom burden is high (12, 13) and the psychological and social impacts are considerable (14). Extensive burdens are placed on people with CKD and their families, and complex transitions need to be negotiated. Dialysis is a demanding, time intensive treatment, and as people approach the end of their life, the risks and benefits of dialysis need careful weighing. Communication is key, especially in relation to dialysis decision-making, treatments such cardiopulmonary resuscitation and ward-based versus intensive management, and advance care planning (15), yet it presents many challenges. This is especially true for those with multimorbidity, who may present with frequent hospital admissions and life threatening complications. We know from a large USA study among patients with end stage renal disease who had been on dialysis for greater than 90 days that many are offered in-hospital cardio-pulmonary resuscitation (1.4 events per 1000 in-hospital days). For the 22% who survived the hospital admission to discharge, post discharge survival was just five months (16).

Providing high quality palliative and supportive care to patients with advanced CKD has the potential to markedly improve patient outcomes, but has not always received sufficient attention. It needs a systematic approach, relevant training and skills, and dedicated resources.

Which patients need palliative and supportive care?

Patients whose palliative and supportive care needs should be considered are those with CKD who:

- have a high physical and/or psychological symptom burden that impacts significantly on quality of life
- decline renal replacement therapy (dialysis or transplant) based on their own preferences
- are advised against renal replacement therapy because the burden of frequent dialysis is felt to outweigh likely survival and quality of life benefits (a complex and difficult decision likely to apply more frequently to those with poor prognoses)
- do not have the mental capacity to engage in dialysis
- have been on dialysis but are now withdrawing or about to withdraw from dialysis
- are on dialysis but with a poor prognosis, often because of co-morbid conditions (especially cardiac disease)

It is vitally important for patients that their physical and psychological symptoms are assessed. In the face of serious illness, a holistic needs assessment is advised in which the mulitidisciplinary care team, in partnership with the patient, considers the multifaceted nature of the patient's needs including physical, social, psychological and social aspects.

Palliative and supportive care assessment

Palliative and supportive care assessment requires a holistic and patient-centered approach. It includes the detailed assessment of:

- preferences for communication, involvement in decision-making, and place of care
- physical symptoms
- physical functioning and rehabilitation needs
- psychological symptoms and emotional well-being

- social and occupational well-being
- family communication and well-being, and pre-bereavement care
- planning ahead as the illness advances to maximize influence over quality of life and place of death in accordance with preferences

Once these needs have been identified and assessed fully, appropriate interventions should then be implemented in a coordinated way. Coordination of care across providers is extremely important for high quality care.

Symptom management

Patients with advanced CKD are among the most symptomatic of any chronic disease group (17-19). Excellent symptom management is therefore esential. For more robust individuals with limited comorbidity, dialysis may address some symptoms such as fatigue, anorexia, nausea and vomiting. However, it appears to do little to address symptoms in older, more frail patients or those with multimorbidity. For some patients, dialysis may add to overall symptom burden. Shared care involving multi-disciplinary kidney teams (nephrologist, dietician, therapists and psychologists), general practice and palliative care is essential to optimally manage the high symptom burden.

Symptom prevalence

Recently, evidence on the epidemiology of symptoms has increased, and the prevalence and severity of individual symptoms is better understood (18-21). Prevalence depends in part on the stage of CKD, whether a patient is receiving dialysis or not, and the nature and extent of co-morbid conditions. Figure 1 presents an overview of the prevalence of different symptoms, according to stage of CKD and management pathway.

Insert Figure 1 about here

This illustrates how prevalent the individual symptoms are, but multiple symptoms often interact (22) and persist over time (23). Pain or nausea, for instance, are more burdensome for a patient who is not sleeping well with restless legs and a low mood.

Symptom assessment

Symptoms are not assessed routinely or well by kidney professionals, and are frequently under recognized (13, 24). Patients do not always raise their symptoms for discussion spontaneously, partly because their symptoms are often from co-morbid conditions and not the kidney disease itself, and partly because professionals tend to focus more on biochemical markers and kidney management. Routine and proactive assessment of symptoms will help address this gap. An appropriate, clinically relevant, and valid symptom score should be used systematically for all patients with CKD at regular intervals. There are three global symptom scores in regular use which have been adapted and validated specifically for use in those with renal disease:

- The renal version of the Palliative (or Patient) Outcome Scale - symptom module (POSs renal)(25) - developed in the UK
- The Edmonton Symptom Assessment Scale-revised:Renal (ESAS-r:Renal) (26) – developed in Canada
- The Dialysis Symptom Index (DSI) (27) – developed in the USA

All are patient-completed symptom scores which ask about the presence and severity of a range of symptoms common in CKD, and they can be downloaded for use from the relevant websites (see Internet Resources). There is also now a more 'global' assessment and outcome measure specific for advanced CKD which includes symptoms *and* other issues, such as information needs, communication concerns, and practical issues:

- The Integrated Palliative (or Patient) Outcome Scale - (IPOS renal) (28) – developed in the UK (see Internet Resources)

Symptom management

Once symptoms are identified, they need active management. It is important to consider non-pharmacological management, especially for symptoms such as itch which have high psychological and social impact. This chapter focuses predominantly on pharmacological management. The aim of symptom management is to control or ameliorate symptoms that adversely affect quality of life whilst avoiding drug toxicity. Use of medication in advanced CKD is challenging because of the pharmacokinetic impact of kidney failure. The evidence presented here applies to Stages 4 or 5 CKD, when eGFR is $\leq$ 30ml/min/1.73m^2. At these levels of kidney impairment, drug metabolism is significantly altered and the risk of toxicity from accumulation of renally-excreted drugs or their active metabolites is very high.

For those receiving dialysis, the effects of dialysis on the drug should be considered. Removal of a drug from the systemic circulation during dialysis is dependent on the following:

- The molecular size of the drug
- The water solubility of the drug
- The degree of protein binding of the drug
- Dialysis-related factors (such as frequency, duration, type of dialysis, type of dialyser membrane).

An up to date review of the effects of dialysis on drugs should be used for guidance on the effect of dialysis on medications, e.g. Dialysis of Drugs (updated annually, and now available as an app).

Pain

Recent evidence shows that pain is common among dialysis patients (29), those managed without dialysis (30) and those withdrawing from dialysis (31). The pharmacological management of pain in patients with advanced CKD has been extensively reviewed recently (32).

Acetaminophen (paracetamol) is the initial analgesic of choice for patients with advanced CKD. It is metabolized extensively in the liver with only 2–5% of the dose excreted unchanged in the urine so no dose adjustments are required. The recommended maximum daily dose is 3000mg given that liver injury can be seen with doses of < 4000mg. In emaciated patients, dosing should be reduced.

Which opioids to use?

Opioid metabolism takes place primarily in the liver to either active or inactive metabolites. The metabolites, and to varying degrees the parent drug, are usually excreted by the kidneys. These may accumulate in patients with advanced CKD. If a significant proportion of the unchanged opioid is excreted by the kidneys and/or the metabolites are active, then the opioid is highly likely to cause toxicity when the eGFR<30mL/min. Careful selection of opioids is therefore essential.

There are no opioids for mild to moderate pain considered suitable or safe for use in patients with advanced CKD so it is recommended to add a very low dose of a stronger opioid to acetaminophen (paracetamol) if pain is inadequately treated. Opioids for mild to moderate pain have the same dose-dependent adverse effects as the strong opioids and there is no evidence that these are less risky than strong opioids if the strong opioid is used at its lowest effective dose (32). A recent study of 140,899 adult hemodialysis patients in the USA showed the highest hazards for altered mental status, falls and fractures were associated with codeine rather than the strong opioids (33). There is also no evidence that at equivalent analgesic efficacy, opioids for mild to moderate pain carry a lower risk of addiction than low-dose strong opioids.

All strong opioids should be used cautiously, with both dose reduction and increase in the dosing interval. Full details are available in a recent review (32). Early review and regular monitoring should be undertaken, since accumulation and subsequent adverse effects can occur quickly (within hours). It is also strongly recommended to avoid the longer acting preparations and use short-acting preparations whenever possible.

Alfentanil and fentanyl are cautiously recommended, and are probably the best opioids to use in the last days of life when an injectable strong opioid is needed. Several clinical and practical considerations (other than safety) need to be taken into consideration; for instance, the short half-life of alfentanil makes it less practical for break-through pain, although it is appropriate for continuous infusion.

Transdermal fentanyl patches are useful earlier in the disease trajectory but professionals unfamiliar with these should recognise that even the lowest strength patches represent a significant opioid dose, and careful titration of immediate acting oral opioids is usually needed before commencing them. Transdermal fentanyl can be used, provided there is careful titration of dose, and early regular review to watch for accumulation. Transdermal buprenorphine is increasingly being used for patients with advanced CKD without reports of adverse effects, although the evidence to support this remains limited. For oral immediate acting preparations, evidence is very limited; hydromorphone or oxycodone (at reduced doses) are likely to be better choices than morphine or diamorphine, although may still accumulate.

Specific types of pain

Neuropathic pain: Neuropathic (nerve) pain is unlikely to respond to opioids alone. Certain strong opioids may be more useful than others in neuropathic pain. For instance, methadone may be appropriate, but should only be prescribed by someone experienced in its use (usually pain or palliative care specialists). Anticonvulsants (e.g., gabapentin and pregabalin) and anti-

depressants (e.g., tricyclic antidepressants) in low doses can be used effectively as adjuvant medications to improve neuropathic pain and should be started before considering opioids. A small study showed improvement in pain and quality of life scores for hemodialysis patients with diverse causes of neuropathic pain using gabapentin (34). Gabapentin is almost exclusively cleared by the kidneys and substantial dose reduction is required as kidney function declines to avoid toxicity. Adverse effects include somnolence, dizziness, peripheral edema and gait disturbances. Although effective for neuropathic pain, tricyclic antidepressants appear to be less well tolerated than the gabapentinoids in patients with advanced CKD because of anticholinergic, histaminergic, and adrenergic adverse effects causing symptoms such as dry mouth, orthostatic hypotension and somnolence. Patients with advanced CKD will often respond to lower doses of tricyclic antidepressant than those with normal kidney function.

Bone pain: Bone pain is also unlikely to respond to opioids alone. Non steroidal anti-inflammatory drugs (NSAIDs) are likely to be beneficial for bone pain but carry a high risk of adverse effects in severe kidney failure, including risk of loss of any residual kidney function. This consideration may be critical and prevent the use of NSAIDs completely, but each case should be reviewed by an experienced clinician in order to make the best judgement. Sometimes, a short course of NSAIDs may be prescribed as a considered risk in the absence of any residual renal function, or towards the very end of life.

Breathlessness

Breathlessness or dyspnoea in the patient with advanced CKD may be due to anaemia, pulmonary oedema (related to fluid overload or to co-existing cardiovascular disease), or co-morbidity (cardiac or respiratory disease). It is important to identify the underlying cause, since treating this is almost always the most appropriate and effective first line of management. Diuretic use and fluid restriction may or may not be appropriate, depending on the clinical circumstances. Optimising anaemia management may be helpful for some patients although the correlation between symptoms and the degree of anaemia is poor. If treatment of the underlying cause has been exhausted, then the situation may arise (particularly in far advanced disease or close to the end of life) where symptomatic measures to relieve breathlessness are required.

General measures, such as sitting upright rather than lying (which maximizes vital capacity); using a fan or stream of cool air which can provide effective symptom relief; inhaled oxygen if hypoxia is confirmed or suspected; and a calm, settled environment, are important. Physiotherapy and occupational therapy can help to maximize mobility and provide appropriate aids to improve function constrained by breathlessness. Breathlessness is very commonly associated with anxiety, often in an escalating cycle (anxiety causing worsening dyspnoea, which triggers worsening anxiety, and so on). Appropriate information, education and support of patient and family are therefore critical, and in advanced disease, an approach based on the Breathing, Thinking, Functioning clinical model may be helpful (35).

As prognosis worsens, general and non-pharmacological measures will have less to offer, and pharmacological measures become more appropriate. This applies only when treatment of the underlying cause of breathlessness has been exhausted. Untreated moderate or severe dyspnoea towards end of life is very distressing, and should be treated as actively as pain or any other distressing symptom. Breathlessness is an increasingly important and dominant symptom in patients with advanced CKD towards the end of life, so it is important to discuss an individual's

priorites pre-emptively so as to meet management preferences if they become symptomatic in the future.

Pharmacological treatments directed specifically at breathlessness include opioids and benzodiazepines (especially if there is associated moderate or severe anxiety). Low dose opioids are helpful in relieving breathlessness near the end of life (36). Strong opioids can be used to control breathlessness (following the pain guidelines) but note that doses should be much smaller (25-50% of those for pain), and if not initially effective, titration should be slower.

Benzodiazepines are useful when there is co-existing anxiety (as there often is), but again need to be used with considerable care and in much reduced doses. Shorter-acting benzodiazepines are recommended, such as lorazepam 0.5 – 1mg orally or sublingually qds (if used sublingually, it has a quicker onset of action and may more readily restore a sense of control to the frightened and anxious patient). If the patient is in the last days of life, midazolam (at 25 % of normal dose if eGFR < 10) can be given subcutaneously and titrated according to effect. Midazolam can be given every 2-4 hours, although CKD patients are sensitive to its effects and do not usually need frequent or large doses. A starting dose of 1 mg is recommended. If more than one or two doses are required, a subcutaneous infusion over 24 hours is most practical.

Constipation

Constipation is common among patients with CKD. The causes can be multifactorial, including fluid restriction, reduced mobility, medication (i.e. aluminium or calcium phosphate binders, iron supplements, and opioids), poor dietary intake, reduced muscle tone through debility, and dietary restriction of high potassium fruits and vegetables (reduced fibre content of food ingested).

Management requires detailed assessment, treatment of reversible causes where appropriate/possible, acute management to overcome current constipation (including rectal measures). Action to prevent further recurrence includes improving mobility and ensuring adequate dietary intake, and including sufficient fibre and fluid (within the constraints of any reduced fluid intake). Osmotic laxatives such as polyethylene glycol or lactulose or peristaltic stimulants such as sennosides or bisacodyl may be used, sometimes in combination with a stool softener. Laxatives which contain magnesium, citrate or phosphate should be avoided in advanced CKD. Polyethelene glycol contains potassium so is therefore better suited for short term constipation which does not respond to other measures.

Nausea and vomiting

Nausea and vomiting are extremely unpleasant symptoms. They may frequently be multi-factorial. Assessment requires a thorough history including establishing the history and pattern of both nausea and vomiting separately. The relationship between the two should also be established, as well as the frequency and volume of vomits, whether there is associated constipation, and a detailed medication history. Profound nausea and/or repeated vomiting will prevent absorption of any medications taken orally, and alternative routes (such as sublingual, rectal or subcutaneous routes) need to be considered, at least until nausea and vomiting is controlled.

The first step is to identify the specific cause where possible, since treatment specifically directed to the cause is most likely to succeed. If medication or toxins are causing nausea, then nausea is usually persistent and unremitting, and sometimes unaccompanied by vomting. Uraemia, and a variety of drugs (including opioids, anti-convulsants, antibiotics and anti-depressants) can cause this kind of persistent nausea. Gastroparesis or delayed gastric emptying (which may be caused by drugs such as opioids, as well as occurring secondary to diabetes mellitus) usually presents with a history of post-prandial nausea or vomiting of undigested food which relieves nausea. Bloating, epigastric fullness, flatulence, hiccough or heartburn may accompany this. Nausea related to gastritis is often associated with heartburn, dyspepsia or epigastric pain. Constipation may exacerbate nausea and vomiting.

If gastroparesis or delayed gastric emptying is suspected, then metoclopramide to increase gastric motility is preferred. Metoclopramide needs 50% dose reduction in patients with CKD 4 and 5 with an increased risk of adverse effects such as dystonia. If uraemia is a suspected cause, then haloperidol or possibly a 5HT3 (a serotonin receptor subtype) antagonist may be the best choice. The dose of haloperidol should be reduced, as there is increased cerebral sensitivity in renal failure. 5HT3 antagonists often cause moderate or severe constipation – this should be anticipated by co-prescribing of laxatives when appropriate. Drug-induced nausea can be relieved by stopping the causative drug. When this is not feasible, haloperidol is often effective. Gastritis (high risk in uraemia) may sometimes contribute to nausea, and should be actively treated with a proton pump inhibitor, to help control related nausea. Towards the end of life, levomepromazine (a 'broad spectrum' antiemetic which works on several of the relevant receptors) in low dose can be effective to control nausea and vomiting, but higher doses can be very sedative.

Pruritus

The cause of uremic pruritus has not yet been fully elucidated. Given the complexity in understanding the causes of pruritus in CKD, it is not surprising that it can be a difficult symptom to manage, with a variety of different treatments proposed, each of limited effectiveness.

The first step is to address possible contributing factors such as anemia and iron deficiency or other causes of itch such as xerosis, allergies or drug hypersensitivities. Dry skin is particularly prevalent in older people and may cause or contribute to pruritus so should be treated actively. Appropriate skin care includes the liberal use of aqueous emollients and gentle soaps with no fragrances. Older people living alone may find it hard to apply emollients easily; spray applications are often helpful in this instance. Preventive measures, such as nail care (keeping nails short), keeping cool (light clothing, and tepid baths or showers) are useful concurrent measures.

It is hard to recommend specific pharmacological measures give the lack of strong evidence. Topical treatments such as Capsaicin ointment 0.025% or 0.03%, Pramoxine 1%, Menthol/camphor/phenol – 0.3% each, either separately or in combination with each other, and Gamma-linolenic acid cream 2.2% can be tried. If systemic treatment is desired, gabapentin starting at 50mg-100mg at night can be tried. A tricyclic antidepressant may be benficial; mirtazipine has some evidence to suggest effectiveness at doses reduced for the degree of kidney impairment (37). Although UVB light has good supporting evidence, it's benefit is

short lived and may not be readily available. Anti-histamines are widely used, but there is very little evidence to support their use.

Restless legs

Restless legs syndrome (RLS) can be an extremely debilitating symptom for some patients with CKD. The formal International Restless Legs Syndrome Study Group (IRLSSG) criteria for diagnosis are:

- Urge to move the legs, usually with unpleasant sensations in the legs
- Worse during periods of rest or inactivity like resting or sitting
- Partial or total relief by physical activity
- Worse symptoms in the evening or night rather than the day

The exact cause for restless legs is not well understood and multiple complex mechanisms likely play a role. It is widely accepted, however, that the dopaminergic system in the central nervous system is somehow disrupted. There is limited evidence in uraemic RLS that iron deficiency, low parathyroid hormone, hyperphosphatemia, and psychological factors may all play a role. Treatment should involve correction of these factors, and reduction of potential exacerbating agents, such as caffeine, alcohol, nicotine, and certain drugs (topiramate, opioids, tricyclic antidepressants, selective serotonin uptake inhibitors, dopamine antagonists olanzapine, and quetiapine).

There is very limited evidence about treatment of RLS in people with CKD and much of the evidence is extrapolated from idiopathic RLS in the general population. Gabapentin or pregabalin, at the appropriately reduced dose, may be effective. Non-ergot dopamine agonists (pramipexole, ropinirole or transdermal rotigotine) may also be effective. There is uncertainty about the use of dopamine agonists long term due to augmentation (return of the symptom, often at a worse level after treatment has commenced). In treating restless legs, the choice of drug management should be tailored to the individual, and will depend on presence of other symptoms, age and tolerance of side effects. Gabapentin may be especially beneficial if the patients also has concomitant symptoms such as insomnia, pruritus and/or neuropathic pain.

Symptom management at the end of life

Traditionally, it was believed that a uraemic death was relatively symptom-free but the evidence does not support this. Where studies have specifically reviewed end of life symptoms, it appears that a significant minority experience severe or distressing symptoms (38, 39). Pain, breathlessness, nausea, retained respiratory tract secretions and terminal agitation can all be problematic.

These symptoms can be relatively well controlled in the majority of patients. Agitation usually responds to low disease of anxiolytics, such as midazolam. Retained respiratory tract secretions can be improved (although not always resolved) by glycopyrronium or hyoscine butylbromide, and treatment is optimal if commenced early. Pain or breathlessness can be effectively managed with opioids, and often only low doses are required. If a patient is on a regular strong opioid orally and can no longer take oral medication, then the total daily dose of strong opioid should be converted to the equivalent dose for subcutaneous fentanyl or alfentanil over 24 hrs and administered via subcutaneous infusion.

Care After Death

The care offered to the person and family at the time of death is hugely important and geographically informed as different countries have different laws and processes. Care after death can be informed by national guidance (see Internet Resources), but in summary family need to be supported to spend time with the person as they die and after death, according to cultural and family preferences. Families with limited socioeconomic reources, and those who stop work to care for the patient, have poorer bereavement outcomes (40). Families need to be supported with information regarding the legal processes after death such as registration of the death, how to contact funeral directors, and sources of support in bereavement.

Summary

Detailed and thorough holistic assessment of the palliative and supportive needs of those with advanced CKD and deteriorating health is essential This involves the assessment of mental capacity to be involved in decision making, advance care planning, care at the time of death and support of the bereaved after death.

Symptom burden is high in this population, and there is evidence of under-prescribing and under-management. In those managed without dialysis, or in those withdrawing from dialysis, symptoms (whether caused by kidney disease or more commonly by co-morbid conditions) need careful attention if optimal quality of care is to be achieved.

Symptom assessment should be an integral part of clinical assessment, alongside routine kidney care and review of biochemical markers. Use of a formal, validated symptom assessment tool will help this, and subsequent symptom management needs careful attention to detail and regular review. Towards the end of life, anticipatory prescribing (prescribing in advance of symptoms) is also recommended to ensure distressing symptoms are minimised.

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Case study 1

Mr B is a 89 year old gentleman with diabetic nephropathy. He has been on haemodialysis for eight years (three times/week) and is admitted to hospital with 'all over' body pain and right stump pain (right above knee amputation eight years earlier for peripheral vascular disease and critical ischaemia). The pain that has been present for several months in his amputated stump had worsened over the previous few days. There were no clinical signs of a deep vein thrombosis. There was no swelling, erythema or cellulitis of right stump. He received regular paracetamol, pregabalin was increased from 50 to 75mg, and oxycodone immediate release 2.5mg 2 to 4 hourly as required was prescribed. The pain settled with three or four doses of oxycodone immediate release daily, and he was switched to oxycodone 5mg slow release 12 hourly. He was also commenced on laxatives – sodium docusate 200mg twice daily – to counter the constipating effect of the oxycodone.

Case study 2

Mrs C is a 49 year old lady, on haemodialysis three times a week, admitted to hospital with a lupus flare and chest infection, who then developed neutropenic sepsis (administered cyclophosphamide prior to this admission). She has active treatment for the sepsis, and this resolves, but she is experiencing ongoing severe and distressing pain around her jaw, neck, back secondary to her disease. It is 'all too much' and she expresses inability to go on with her treatment. Pain is the main cause of her distress, but she has reactions to a wide variety of drugs. Oxycodone is discontinued as it caused localised itching. Her pain is eventually improved with 1mg alfentanil administered subcutaneously over 24 hours, and this is well tolerated.

A meeting is held with the patient, her son and family, the consultant, and (at her request) the hospital chaplain. It is agreed that the treatment for the lupus is very arduous, and almost as tough as the illness. Mrs C agrees to continue all active treatment, but that if her heart was to stop, she would not want resuscitation, and that her care should be managed on the ward (with no escalation to intensive care). The chaplain confirms that should Mrs C want this, that withdrawal of dialysis is not suicide but withdrawal of life-sustaining treatment, and that Mrs C could rest assured that she will be supported should she choose to stop dialysis. The option of a hospice for symptom management was offered. The family agree to respect any decision Mrs C makes in due course about not wanting any further treatment for her lupus or dialysis. Mrs C transferred to the hospice for continued symptom management and is content to continue regular dialysis now her pain is better controlled.

Case study 3

Mr S is a 70 year old gentleman. He has end-stage renal failure – his e-GFR is 11mL/hour - and he has opted (after some discussion several months ago) to be managed with maximal conservative management (no dialysis and full supportive care). The main issues are interrupted sleeping pattern due to nocturia/frequent urination at night brought by furosemide (with known heart failure and a history of pulmonary oedema), and spinal/hip pain secondary to osteoarthritis. He then has a transient ischaemic episode and is admitted to hospital. On discharge he expresses a desire not to be admitted to hospital again, and to receive end of life care at home. He is referred to the palliative care team for support, management of fatigue, and pain control. The palliative care team meet him and ensured his wishes and preferences were recorded, alongside documentation of Do Not Attempt cardio-pulmonary resuscitation,

and liase with the renal team and General Practitioner to optimise his care and future plans. Over a subsequent weekend, the ambulance service is called as Mr S has upper abdominal pain and an upper gastro-intestinal bleed. Mr S states again that he does not want 'tests and things', and home is where he wants to be, even if this means he has less time to live. The "as required" medicines for comfort at end of life are prescribed and made available in the house. Mr S is given 2.5mg oxycodone subcutaneously stat for pain, and 0.75mg alfentanil over 24 hours via subcutaneous infusion to manage his ongoing pain. On review, he is pain free and settled. Regular mouthcare and other nursing care is provided and Mr S dies at home four days later with his family around him.

Questions:

1. Why is it important to start thinking with patients and their families about their wishes and preferences as a patient's disease advances?

   Without open discussion of prognosis and what to expect in the future, and consideration of an individual's preferences for care and treatment as they become less well, including what is realistically available, it will be very difficult to ensure that last months, weeks or days of life are lived as fully as possible, in the way that person prefers, despite the illness.

2. What medical, nursing, and therapy decisions need to be considered as an advance plan of care is considered?

   The main decisions to be considered are whether dialysis, active treatment of infections and other complications, and resuscitation, are likely to bring benefit and burden, and how the individual regards each of these interventions. Place of care (and place of death) are also important to consider. Realistic understanding of what can and cannot be achieved or delivered in terms of healthcare is key, since unrealistic understanding will often lead to bitter disappointment or even anger. It is also important to involve family if possible, so that they too understand what is possible or not, and why decisions may be made in one direction or another. A person with advanced CKD may become weak or confused as the illness advances; clarifying how decisions will be made if this occurs is also important.

3. Think of a patient you have cared for who has experienced uraemic itch. How did you help the patient cope with this symptom? What might you do differently now?

   You may think more readily about contributing factors such as anemia or iron deficiency. You will suggest that dry skin should be very actively treated; itch will not readily improve without active management of dryness. Advice on nail care, and keeping cool are also helpful. There are a range of medications which you can consider, although evidence is limited and it will be important to match the choice of one of these medicines to the individual.

4. Think of a patient for whom you have cared for until the point of death. What did you do after death to support the family? How did you ensure all those who were involved in their care were notified?

Providing information, time, and above all kindness are the most important considerations. Families may not have experienced the death of a family member before; they may be shocked, saddened, angry, upset, or none of these. Different family members may have different emotions and this can be hard for them to comprehend. Allowing time for questions, and supporting through a follow up visit or call can be helpful. The extent of support beyond the immediate post-death period may depend on bereavement risk factors; consider referral to bereavement support services if this is appropriate.

It is important to notify *all* the professionals involved in care so they are aware of the death.

Internet resources

1. Palliative Care Outcome Scale (POS-Renal and IPOS-Renal). London UK: Cicely Saunders Institute, King's College London [Last Accessed 30th October, 2018] Available from: http://pos-pal.org/index.php

2. ESAS – Edmonton Zone Palliative Care Program and Northern Alberta Renal Program. [Last Accessed 17th September, 2018]. Available from: http://www.palliative.org/tools.html

3. Care After Death: Guidance for Staff Responsible for Care After Death. 2nd edition. https://www.hospiceuk.org/what-we-offer/publications?cat=72e54312-4ccd-608d-ad24-ff0000fd3330 [Last accessed 1st November 2018]

4. **Figure 1: Proportion (%) of patients with common symptoms in renal disease, by modality (weighted mean prevalence of symptoms, reported by Almutary et al (18))**