Pain

Pain is a common symptom in patients with ESKD, and significantly impacts quality of life and function.

Pathogenesis can be

1. pain relating to the underlying kidney disease such as polycystic kidney disease, renal bone disease, amyloid deposition (carpal tunnel syndrome), and calciphylaxis;
2. pain related to management of ESKD, such as steal syndrome, intradialytic cramps, intradialytic headaches, abdominal pain with peritoneal dialysis; and
3. pain related to co-morbidities such as musculoskeletal disease, peripheral neuropathy, peripheral vascular disease, ischaemic heart disease, gouty arthropathy

Management

Take a detailed pain history. Patients may have multiple causes of pain.

Treat the underlying cause if possible.

For specific pain syndrome such as diabetic peripheral neuropathy or osteoarthritis, follow evidence-based guidelines. If certain medications are relatively contraindicated in renal failure, check pharmacokinetics and adjust doses according to renal function.

For musculoskeletal pain, use ***non-pharmacological strategies*** as the mainstay of treatment: for example, heat packs or cold packs, joint splinting, gentle exercises, and hydrotherapy.

Treat co-morbid depression and/or anxiety.

For chronic non-cancer pain, consider referral to a multidisciplinary pain clinic.

Pharmacological management

Nociceptive/soft tissue pain

For localised pain, consider topical therapies. Commonly available agents include:

- Zen liniment
- Mesal
- Painaway
- Ice3 Gel (Menthol)
- Topical NSAIDs

Systemic treatment should follow WHO analgesic ladder

Step 1: non-opioid analgesia
Regular paracetamol is safe is renal failure, use 1g qid if needed
Systemic NSAIDs are contraindicated

Step 2: weak opioids
Codeine and tramadol are not routinely used in this population

Step 3: strong opioids

Preferred short acting strong opioids are:

1. Hydromorphone, start with 0.25mg-0.5mg q4h, and titrate slowly to effect
2. Oxycodone, start with 2.5mg q6h, and titrate up to effect
3. Fentanyl lozenge or sublingual preparations, start 100-200mcg qid (not PBS subsidized for non-cancer pain)

Preferred long acting strong opioids are

1. Buprenorphine patch, starting at 5mcg/h
2. Fentanyl patch (NB should not be initiated in opioid naïve patients, even at the lowest dose of 12mcg – instead, begin with short acting opioids)
3. Oxycontin (starting doses based on oxycodone requirement)
4. Palexia SR up to 50mg BD
5. Methadone
   - Faecally excreted and not dialysed
   - Palliative guidance is usually required due to complex pharmacokinetics.

Morphine should avoided in renal failure.If no other strong opioids are available, consider small doses with wide dosing interval.

Paracetamol should be maintained as background treatment.

Neuropathic/nerve pain

The following medications can be used, either

- as first line for neuropathic pain, OR
- as an adjunct in nociceptive pain, according to WHO analgesic ladder

1. **Gabapentinoids (gabapentin or pregabalin)**
   a. Commence gabapentin 100mg or pregabalin 25mg alternate nights for non-dialysis (eGFR<15ml/min) and peritoneal dialysis patients, or 3x weekly post-dialysis for haemodialysis patients. Additional dose post APD if pain control suboptimal during daytime.
   b. Up-titration if limited efficacy without side effects: to gabapentin 100mg nocte and then 100mg bd or pregabalin 25mg nocte and then 25mg bd. Higher doses can be used if well tolerated
   c. Main side effects include drowsiness, ataxia, clumsiness, blurred vision
   d. These drugs are used to treat restless legs syndrome and uraemic pruritus
2. **Tricyclic antidepressants**
   a. Amitriptyline 10mg nocte. Titrate up to 25mg nocte after 3-7 days, and to 50mg nocte after 1-2 weeks. If no efficacy at 50mg nocte, consider other alternatives.
   b. Common side effects include drowsiness, dry mouth, and constipation
3. **Duloxetine (SNRI)** has evidence for efficacy in painful diabetic peripheral neuropathy. Use 30mg daily.
4. **Other medications** useful for neuropathic pain include: lignocaine, mexiletine, and methadone, with pain team or palliative care guidance.

Neuropathic creams can be trialled in localised neuropathic pain, but requires use of a compounding pharmacy. Example: Lignocaine (start at 5%)/tetracaine/prilocaine.

Lignocaine 5% patches (Versatis) can be used for post-herpetic neuralgia on the involved dermatome.