Palliative Care in ESRD

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Objectives

- Prevalence of ESRD
- ESRD and age
- Survival of ESRD
- ESRD without dialysis or withdrawal
- Symptoms at end of life
- Pain Management
- Best approach
- Instruments to measure “GOOD Quality DEATH”

Mortality

- Crude mortality 18-20%/year
- Adjusted mortality about 15% per year
- CORR reports most common cause of death is Cardiovascular, Miscellaneous and Infections

ESRD with no dialysis

- Do not start/ withdraw

When do we do dialysis:

- eGFR less than 10ml/min/1.73m^2
- Electrolyte disorders (hyperkalemia)
- Fluid overload
- Pleuritis/pericarditis
- Uremic encephalopathy
- Metabolic acidosis
- High serum Phosphate levels/high PTH levels

Survival with conservative management (never start dialysis) vs dialysis

- Range 6-23 months for over median age 75 with CM
- Range 8-38 months for over median age 75 with dialysis

(one outlier survival was 67 months)

Conservative Management of End-Stage Renal Disease without Dialysis: A Systematic Review

Nina R. O'Connor, M.D.1 and Pallavi Kumar, M.D

Journal of Palliative Medicine Nov 2012

Catalano et al NDT 1996

UK study 1996

After dialysis withdrawal of 88 patients (17% of all mortality) the median survival was 8 (0-35) days, 15 patients survived 3 days or less and 19 more than 10 days.

Suffering

- Physical
- Emotional
- Psychosocial
- Spiritual

Causes of Pain

- Neuropathic
  - Peripheral neuropathy, ischemia, phantom limb, carpal tunnel syndrome, calciphylaxis, renal osteodystrophy, steal syndrome from access, osteoarthritis, amyloidosis
  - Opioids do not treat this kind of pain well
  - Gabapentin

Hydromorphone

- Binds to opioid receptors in CNS, inhibits ascending pain pathways, altering the perception of and response to pain (uptodate)
- Metabolized by the liver but the metabolites remain longer due to renal impairment
- Start dose 25-50% lower than those with normal renal function
- Sq 0.5mg q4h and slowly increase (opioid naïve)

Neurotoxicity

- High doses of opioids lead to myoclonus, seizures, CNS depression and death
- Use with caution

Fentanyl patch

- Use only once on opioids beforehand
- Again dose is started at 50% less than someone with normal renal function
- Metabolized by the liver CYP3A4
- High volume of distribution and lipophyllic
- Once discontinued, would still remain in body longer
- Accumulates with chronic use

Methadone

- Binds to opioid receptors in the CNS
- Weak antagonist for N-methyl-D-aspartate
- Less tolerance and neurotoxicity
- 10% excreted through urine, rest through feces
- With renal failure, higher levels
- Start low dose and increase

Meperidine

- Demerol/meperidine
- Metabolite causes neurotoxicity
- Seizures/death
- Never use in renal patients

Gabapentin

- Gabapentin is an analog of gamma-aminobutyric acid (GABA) that has GABA agonist activity.
- Mechanism of action: unknown
- Renal excretion
- Long half life in renal patients
- Dose small and go up
- 100mg daily and titrate up to 600mg/day
- Sedation, tremor, ataxia as side effects

Dyspnea

- Oxygen
- Positioning/open window/fan
- Opioids
- Diuretics if they still urinate
- Sedatives: benzodiazepine

Midazolam

- Has higher potency then other benzodiazepines, shorter half life and less cardiorespiratory depression
- Subcutaneous is 1/3 as potent as iv
- In patients with eGFR below 10 ml/min/1.73 m^2 use 50% reduction in dosing
- Start low and go up 0.5mg q2h prn for results
- Sedates: use cautiously

Nausea

- Maxeran/metoclopromide: dopaminergic blocking agent, GI stimulant

Agitation/anxiety

- Risperidone 0.25mg bid po
- Haloperidol 0.5mg to 1mg to settle down iv/im
- Terminal: Benzodiazepines (midazolam)

pruritis

- UV B light
- Emollients and moisturizing creams
- Thalidomide
- Mirtazipine
- Gabapetin

Nephron 1994: Silva et al

- 29 refractory pruritis cases in hemodialysis
- 55% reduction of symptoms in a crossover study with thalidomide
- Thalidomide dose 100mg per day
- Very small amount cleared by the kidneys
- No side effects were reported

Mirtazapine

- H1, 5HT2 and 5HT3 receptor blocker
- SSRI, antidepressant
- Case series published in 2003, 7.5-15 mg daily was used in renal failure for pruritis and was successful

ESA

- Erythropoeitin stimulating agents
- Stimulate bone marrow to produce RBCs
- Stopping this drug often will lead to worsening fatigue, due to anemia
- Controversial whether to continue during the last days

Death

Occurs due to

- hyperkalemia
- Pulmonary edema and cardiorespiratory failure

Suffering

- She didn't want to lose her independence
- She had severe respiratory failure, controlled with medications
- She died a peaceful death

Suffering

- No planned site to take when unable to keep at home
- Family felt not relieving his symptoms of respiratory distress
- Acute care bed not a place for good palliation
- Family upset for months after

Instruments to measure quality of death

- Edmonton symptom assessment system and Memorial symptom assessment scale renamed as dialysis symptom index (symptom assessment tool) been validated in CKD population
- Quality of dying and death questionnaire closest to achieving the domains mentioned

Take home messages

- More involvement of palliative care services for ESRD population do not choose dialysis or continue dialysis
- Physical: pain, agitation, dyspnea, pruritis
- Use medications with caution in renal disease, small doses and titrate up
- Aim for a good quality death
- Advocate for more resources on this