Palliative Care of the Patient with End-Stage Renal Failure

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Content

- Approaches
- Prognostication
- Withholding or withdrawal of dialysis
- Common symptoms
- Advance Care Planning
- (Communication)

Before starting dialysis

We need to remember….

Approaches

Treatment Approach

- Dialysis as a bridging treatment.
- Dialysis as a final destination treatment.

(but unlike the refugee, we can u-turn back, ie time limited trial of treatment)

- Active medical management without dialysis
- Withdrawal of dialysis

- Vandecasteele SJ, Kurella Tamura M. A patient-centered vision of care for ESRD: dialysis as a bridging treatment or as a final destination? J Am Soc Nephrol 2014; 25:1647.
- Churchill DN, Jassal SV. Dialysis: destination or journey. J Am Soc Nephrol 2014; 25:1609.

Question

- Will all patients with renal failure benefit from dialysis?

Shortened lifespan

- 5 year survival for CKD 5: 38%
- Dialysis patients live approximately 1/3 to 1/6 as long as the general population

  (USRDS data: for those aged 40-44, dialysis patients live **8** years cf to **30-40** years in the general population. For those aged 60-64, dialysis patients live **4.5** years compared to **17-22** years)

- Dialysis may not confer that much of a survival benefit for some patients, therefore there is a need to estimate prognosis: better informed decisions for the patient/family

In Singapore

- Overall annual mortality among dialysis patients 12.1%
- Cardiovascular and infections the 2 top causes of deaths

Survival benefits of dialysis in ESRF

Conclusions:

- Dialysis prolongs survival for elderly who have ESRD with significant comorbidity by approximately 2yrs
- However, pts who choose maximum conservative management have a substantial length of time , achieving similar number of hospital free days compared to pts who choose to have HD

Clin J Am Soc Nephro (2009) 4 : 1611-1619

Prognostication

- Age

For 1-year increments beginning at age 18, there is a 3 to 4% increase in annual mortality compared to the general population. 1 and 2 year mortality rates go from 10 and 12% at 25-29 years of age, to 25% and 42% at 65-69 years, to 39% and 61% at 80-84 years of age.

- Functional Status

The relative risk of dying within 3 years of starting dialysis is 1.44 for those with Karnofsky Performance Status scores of <70 compared to those with a score ≥70

- Albumin

A low serum albumin level, both at baseline and during the course of dialysis treatment, is a consistent and strong predictor of death. For example, the 1 and 2 year survival of patients with an albumin of >3.5 g/dL is 86% and 76% respectively, compared to 50% and 17% if one's albumin is less than 3.5.

https://www.capc.org/fast-facts/191-prognostication-patients-receiving-dialysis/

Modified Charlson Comorbidity Index: Total score is the sum of the comorbidity points

Comorbidity Points				
1 point each for coronary artery disease, congestive heart failure, peripheral vascular disease, cerebrovascular disease, dementia, chronic pulmonary disease, connective tissue disorder, peptic ulcer disease, mild liver disease, diabetes **1** point for every decade over 40 (e.g. a 65 year old would receive 3 points).				
2 points each for hemiplegia, moderate-to-severe renal disease (including being on dialysis), diabetes with end-organ damage, cancer (including leukemia or lymphoma)				
3 points for moderate-to-severe liver disease				
6 points each for metastatic solid tumor or AIDS				
Modified CCI Score Totals	Low score (≤3)	Moderate (4-5)	High (6-7)	Very High (≥8)
Annual mortality rate	0.03	0.13	0.27	0.49

Example

For example, a 66 year old male on dialysis with a history of CHF, COPD, and diabetes with retinopathy would have a CCI score of 9 and a nearly 50% chance of dying within a year. Using this, a provider could discuss with the patient his prognosis and use this to facilitate further discussion regarding planning for the future, including end-of-life decisions. The Index of Coexistent Disease (ICED), a general illness severity index, has also shown predictive power in ESRD. The scale's complexity and length however (it entails asking over 100 questions) limit its clinical usefulness.

https://www.capc.org/fast-facts/191-prognostication-patients-receiving-dialysis

Prognostication

- The surprise question

"Would I be surprised if this patient died within the next year?"

SPECIAL ARTICLE

J Am Soc Nephrol 11: 1340–1342, 2000

Clinical Practice Guideline on Shared Decision-Making in the Appropriate Initiation of and Withdrawal from Dialysis

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Clinical Practice Guideline on
Shared Decision-Making in the Appropriate Initiation of and Withdrawal from Dialysis

Box 1. Situations in Which It Is Ethically Appropriate to Forgo Dialysis

- Patients with decision-making capacity who, being fully informed and making voluntary choices, refuse dialysis or request that dialysis therapy be discontinued
- Patients who no longer possess decision-making capacity who previously have indicated refusal of dialysis therapy in an oral or written advance directive
- Patients who no longer possess decision-making capacity and whose properly appointed legal agents/surrogates refuse dialysis therapy or request that it be discontinued
- Patients with irreversible profound neurologic impairment such that they lack signs of thought, sensation, purposeful behavior, and awareness of self and environment

Note: Reproduced from Renal Physicians Association (RPA) guideline[22] (available at www.renalmd.org) with permission of the RPA.

Stopping Dialysis

- Mean survival from the last dialysis treatment to death in a patient who stops dialysis is six to eight days (a range of 2 to 100 days

- Longer survival should be expected in patients with significant residual renal function.

- Cohen LM, Germain M, Poppel DM, et al. Dialysis discontinuation and palliative care. Am J Kidney Dis 2000; 36:140.
- Neu S, Kjellstrand CM. Stopping long-term dialysis. An empirical study of withdrawal of life-supporting treatment. N Engl J Med 1986; 314:14.
- Fissell RB, Bragg-Gresham JL, Lopes AA, et al. Factors associated with "do not resuscitate" orders and rates of withdrawal from hemodialysis in the international DOPPS. Kidney Int 2005; 68:1282.

Palliative Medicine 2009; **23**: 103–110

Symptom management for the adult patient dying with advanced chronic kidney disease: A review of the literature and development of evidence-based guidelines by a United Kingdom Expert Consensus Group

C Douglas Ninewells Hospital, Dundee, **FEM Murtagh** King's College London, London, **EJ Chambers** Southmead Hospital, Bristol, **M Howse** Royal Liverpool Hospital, Liverpool and **J Ellershaw** University of Liverpool, Liverpool; Marie Curie Palliative Care Institute, Liverpool

Box 1: Recommendation

Management of Nausea and Vomiting in the patient dying with Advanced CKD

- Haloperidol is recommended for uraemia-induced nausea at 50% of the normal dose.
- If symptoms persist, levomepromazine is an alternative antiemetic.
- Metoclopramide should be used with caution as there is greater risk of extrapyramidal reactions.
- Cyclizine may induce hypotension and tachyarrythmia and is not recommended.

Box 2: Recommendation

Management of Respiratory Tract Secretions in the patient dying with Advanced CKD

- Glycopyrronium or hyoscine butylbromide are recommended for treatment of respiratory tract secretions.
- The dose of glycopyrronium should be reduced to 50% of the normal dose.
- Hyoscine hydrobromide is not recommended because of the risk of excessive drowsiness or paradoxical agitation.

Box 3: Recommendation

Management of Terminal Agitation in the patient dying with Advanced CKD

- Midazolam is recommended if medication is required to relieve agitation in the dying phase. In advanced CKD, more unbound drug becomes available and excessive drowsiness may occur. Dose reduction and an increased dosing interval for midazolam are therefore recommended.
- Levomepromazine can be added if symptoms persist.

Box 4 Opioid Prescribing Guidelines for patients with pain or dyspnoea who are dying with advanced CKD

Fentanyl by the subcutaneous route is recommended for pain and dyspnoea

Alfentanil is recommended by continuous infusion if the patient develops signs of toxicity on fentanyl or if the dose of fentanyl exceeds 500 µg per 24 h (due to high volume).

Oxycodone, hydromorphone, morphine and diamorphine should only be used short-term if alternative opioids are not immediately available

Morphine or diamorphine should not be given regularly or by continuous infusion

Pain

- Chronic pain is common in chronic kidney disease impacting 50% of hemodialysis patients, 82% of whom experience moderate to severe pain.

Opioid use in Renal failure

- Not recommended for use
  - Meperidine(Pethidine)
  - Codeine (GFR < 30ml/min)
  - Morphine (GFR < 30ml/min)

https://www.capc.org/fast-facts/161-opioid-use-renal-failure/
Robert M Arnold MD , Peg Verrico RPh , Sara N Davison MD

Opioid use in Renal failure

- Use with caution
  - Oxycodone
  - Hydromorphone
  - (Tramadol) – dose limit

- https://www.capc.org/fast-facts/161-opioid-use-renal-failure/
  Robert M Arnold MD , Peg Verrico RPh , Sara N Davison MD
- Clinical Algorithm and preferred medications to treat pain in dialysis patient
  MARC 2009

Opioid use in Renal failure

- Safest in Renal Insufficiency
  - Fentanyl
  - Methadone

https://www.capc.org/fast-facts/161-opioid-use-renal-failure/
Robert M Arnold MD , Peg Verrico RPh , Sara N Davison MD

Opioid use in Renal failure

- Opioid dosing (Broadbent 2003)
  - CCT > 50 mL/min: normal dosing
  - CCT of 10-50 mL/min: 75% of normal
  - CCT < 10 mL/min: 50% of normal

Opioid use in Renal failure

- The “normal opioid dose” for any given patient is the dose that adequately relieves pain without unacceptable adverse effects

- Require closer monitoring and constant reassessment for toxicities

- This should not preclude the effective use of opioids in these patients.

Opioid use in Renal failure

- **References**

- Chambers EJ, Germain M, Brown E, eds. Supportive Care for the Renal Patient. New York, NY: Oxford University Press; 2004.
- Davison SN. Pain in hemodialysis patients: prevalence, cause, severity, and management. Am J Kidney Diseases. 2003; 42(6):1239-1247.
- Murphy EJ. Acute pain management pharmacology for the patient with concurrent renal or hepatic disease. Anaes Intensive Care. 2005; 33(3):311-22.
- Dean M. Opioids in renal failure and dialysis patients. J Pain Symptom Manage. 2004; 28(5):497-504.
- Broadbent A, Khor K, Heaney A. Palliation and chronic renal failure: opioid and other palliative medications – dosage guidelines. Progress in Palliative Care. 2003; 11(4):183-90.

Neuropathic Agent

- Gabapentin
  - (start with 100mg/d or EOD)
  - 300mg/d - generally safe
  - 600mg/day – use with caution
  - some resources advocate limit dose to 300mg/day
- Pregabalin
  - 100mg/d – generally safe

Clinical Algorithm and preferred medications to treat pain in dialysis patient
MARC 2009

Advance Care Planning

- Identify
- Healthcare proxy
- Goals of care
- Extent of care

Conclusion

- Approaches
- Prognostication
- Withholding or withdrawal of dialysis
- Common symptoms
- (Advanced Care Planning)
- (Communication)