

CARE OF THE DYING PATIENT WITH ESKD

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OBJECTIVES

- UNDERSTANDING OF:
 - POTENTIAL COMPLEXITIES OF ESKD PATIENTS
 - IMPORTANCE OF COMMUNICATION
 - CONSIDERATIONS AT END-OF-LIFE
 - END-OF-LIFE MEDICATIONS
 - AVAILABLE RESOURCES

TYPICAL CASE

- 76 YO FEMALE WITH ESKD AND CCF ADMITTED WITH FLUID OVERLOAD AND FALL
- EGFR 5
- T2 DIABETIC ON INSULIN – PVD
- IHD WITH CABG 8 YEARS AGO
- MI (3 MONTHS AGO)
- OVERWEIGHT 96KG BUT HAS NOT BEEN EATING WELL FOR MONTHS, AND NOT AT ALL IN PAST WEEK

REFERRED FOR ANTICIPATED EOL CARE

- **CURRENT ISSUES:**

- PAIN
- NAUSEA AND VOMITING
- CONSTIPATION
- FLUID OVERLOAD DUE TO CCF AND RENAL FAILURE
- LIKELY INCREASED HF DUE TO RECENT MI
- FUNCTIONAL DECLINE IN PAST MONTH
- SOCIALLY: LIVES ON THEIR OWN WITH NO SERVICES, FAMILY FULL TIME WORKERS WITH OWN YOUNG FAMILIES

ANTICIPATED ISSUES

- LIKELY DETERIORATION TO EOL DUE TO FLUID MANAGEMENT
- DISCHARGE PLANNING
 - COMMUNITY SERVICES
 - PLACE OF CARE
- MEDICATION (WHETHER INPATIENT OR OUTPATIENT)

BLOODS

Blood Chemistries

<input type="checkbox"/> Sodium Level	* 144 mmol/L
<input type="checkbox"/> Potassium Level	* 3.6 mmol/L
<input type="checkbox"/> Chloride Level	* L 92 mmol/L
<input type="checkbox"/> Bicarbonate Level	* 29 mmol/L
<input type="checkbox"/> Urea Level	* H 60.9 mmol/L
<input type="checkbox"/> Creatinine	* H 721 umol/L
<input type="checkbox"/> EGFR	* 5

Haematology

<input type="checkbox"/> WCC	4.11 x10 ⁹ /L
<input type="checkbox"/> Hb	L 79 g/L

ASSESSMENT

- HOW MUCH CAN THE PATIENT EXPRESS PAIN?
- USE AVAILABLE TOOLS FOR ASSESSING THIS FOR NESP, DEMENTIA ETC
- TONGUE: ?THRUSH, COATED?
- BOWELS
- NAUSEA AND VOMITING



ASSESSMENT

- WHAT MEDICATIONS ARE THEY ALREADY ON?
- DOES ANYTHING NEED CHANGING, ADDING, REMOVING, RATIONALISING?
- IS THE PATIENT DYING?
- IS THIS REVERSIBLE?
- WHAT IS REVERSIBLE AND WHAT IS NOT?
- HAS THE PATIENT AND FAMILY DISCUSSED THE POSSIBILITY OF DYING AND THEIR WISHES?

- ALLIED HEALTH SHOULD BE AUTOMATICALLY REFERRED FOR ANY NEW NFD PATIENT WHETHER IN-PATIENT OR OUT-PATIENT

PAIN

RENAL ADAPTATION OF WHO

Table 1: Renal adaptation of the WHO Analgesic Ladder (Barakzoy, 2006; Murtagh, 2006; Salisbury, 2009; Glick, 2011)			
WHO Ladder	Analgesic	Recommendation	Adverse Effects
Step 1: Mild Pain	Acetaminophen	The National Kidney Foundation recommends acetaminophen as the non-narcotic analgesic of choice for mild-to-moderate pain in ESRD.	Hepatotoxicity has been reported in persons with underlying liver disease or long-term alcohol use with doses exceeding 4,000 mg/day.
	Non-Steroidal Anti-Inflammatory Drugs (NSAIDs) (e.g., Ibuprofen, Naproxen)	Topical gels acceptable. Oral agents discouraged in patients with residual urine output, advanced age, or multiple co-morbidities.	Loss of residual renal function, sodium and water retention, hypertension, hyperkalemia, and increased gastrointestinal bleeding risk when compounded by uremic-induced poor platelet function.
Step 2: Moderate Pain	Tramadol	Recommended. Safer than oxycodone, although dose adjustment may be necessary due to renal clearance.	Side effects are similar to those of opioids: nausea, central nervous system (CNS) depression, and constipation. Tramadol may cause seizures in conditions associated with a lowered seizure threshold. Risk for serotonin syndrome with concomitant serotonergic medications.
	Oxycodone	Use cautiously. No data available on dialysis of oxycodone.	Nausea, CNS depression, and constipation.
Step 3: Severe Pain	Hydromorphone	Use cautiously. Hydromorphone has been used without adverse effects in dialysis patients, but there are no data concerning dialysis of the metabolites, and metabolite accumulation is a risk.	Nausea, CNS depression, and constipation. Metabolite accumulation may cause neuro-excitation with agitation, confusion, and hallucinations.
	Fentanyl	Recommended. Appears safe, at least over short periods. It is largely cleared by the liver, and metabolites are inactive.	Nausea, CNS depression, and constipation.
	Methadone	Recommended. Appears safe, at least over short periods. It is largely cleared by the liver, and metabolites are inactive.	Nausea, CNS depression, and constipation. High potential for drug interactions.
Unsafe: Codeine, Morphine, Meperidine, and Propoxyphene are not recommended in hemodialysis patients due to case reports of accumulation and toxicity in renal failure.			

CHOOSING ANALGESIA

- PREVIOUSLY ON FENTANYL 12MCG/HR PATCH 3/7
- REGULAR PANADOL
- PAIN REQUIREMENTS HAVE ESCALATED – 6/10
- CONSIDERATIONS FOR PAIN MANAGEMENT
 - CLINICAL PICTURE
 - ABSORPTION ISSUES
 - ROUTE OF ADMINISTRATION
- UNCONTROLLED PAIN
 - STOP LONG ACTING OPIOIDS → SHORT ACTING
- PRN ANALGESIA

NAUSEA & VOMITING

- ASSESS TYPE OF NAUSEA – MECHANICAL OR CENTRAL
- TREATMENT OPTIONS IN ESKD
 - METACLOPRAMIDE 5-10MG BEFORE MEALS (PROKINETIC) – *MECHANICAL*
 - HALOPERIDOL 0.5MG BD – *CENTRAL*
 - CYCLIZINE 25MG TDS – *BOTH*
- IS CONSTIPATION CAUSING IT?

CONSTIPATION IN ESKD

- HOW DO WE ASSESS?
 - HISTORY
 - DIGITAL RECTAL EXAMINATION

- HOW DO WE TREAT?
 - ACCORDING TO THE CLINICAL PICTURE
 - FOLLOW LOCAL POLICY

CONSTIPATION IN ESKD

- BE AWARE OF FLUID RESTRICTIONS
- AVOID LACTULOSE – REQUIRES A LOT OF FLUID
- MOVICOL OR OSMOLAX - CAN BE MIXED WITH LESS WATER
- CONSIDER BIOCHEMISTRY
 - FLEET DROPS / ENEMAS - CAN ↑ PO₄
 - START 10ML STAT THEN BD

RSC INVOLVEMENT IN FAMILY MEETINGS

- USUALLY ORGANISED BY THE SW
- IS A MDT APPROACH
- RUN BY THE TREATING TEAM
- OPPORTUNITY FOR FAMILIES TO GAIN INFORMATION AND ASK QUESTIONS (THIS IS WHERE WE COME IN!)
- CAN ASSIST WITH DECISION-MAKING
- COMMUNICATION!

COMMUNICATION

- KEEP THINGS SIMPLE
- INTERPRETER SERVICES
- CHECK UNDERSTANDING
- MORE INFO IS BETTER THAN NOT ENOUGH
- EDUCATE STAFF HOW TO CARE FOR ESKD PTS
- 'FAMILIES REMEMBER EVERYTHING'
- IMPORTANCE OF 'HANDOVER'

BACK TO THE CASE

- FLUID OVERLOAD IS TREATED WITH HIGH DOSE LASIX
- THE FUNCTIONAL DECLINE HAS NOT IMPROVED AND SHE IS MAINLY BED BOUND NOW
- NO LONGER ABLE TO BE CARED FOR AT HOME
- LAST BLOOD TEST SHOWED EGFR NOW 3, UREA 42, CREATININE 1200
- LIKELY NEARING END OF LIFE AND NFD IS STILL THE CURRENT SITUATION

QUESTIONS

- PROGNOSIS?
- URINE OUTPUT?
- GOALS OF CARE?
- DISCHARGE PLAN?
- RECOGNISED AS DYING?
- SHOULD PALLIATIVE CARE BE INVOLVED ALONGSIDE RSC?



END-OF-LIFE CONSIDERATIONS

- FAMILY AWARE OF CURRENT HEALTH STATUS AND PLAN
- NFR STATUS DOCUMENTED
- EOL CARE PATHWAY
- RATIONALISE MEDS AT EOL
- ENSURE 'ANTICIPATORY' PRESCRIBING
- CESSATION OF OBS / UNNECESSARY RX
- SPIRITUAL NEEDS / SW
- COMFORT FEEDING DOCUMENTED

END-OF-LIFE CARE DESTINATIONS

- ACUTE CARE SETTING
- RESIDENTIAL AGED CARE FACILITIES
- HOSPICE IF AVAILABLE
- HOME
 - SW
 - OT
 - COMMUNITY PALLIATIVE CARE TEAM
 - GP
- REFERRAL PATHWAYS



POTENTIAL EOL SYMPTOMS IN ESKD

- DECREASED URINE OUTPUT
- MYOCLONIC JERKS 2° TO URAEMIA / ↓ LOC
- PAIN USUALLY FROM CO-MORBID CONDITIONS
- NAUSEA
- AGITATION/DELIRIUM (CHECK FOR CONSTIPATION /URINARY RETENTION)
- RESPIRATORY / TERMINAL SECRETION (POTENTIAL FOR ASPIRATION WITH COMFORT FEEDING)
- SOB

OTHER CONVERSATIONS

- OPIOID PHOBIA
- REQUESTS FOR IV/SC FLUIDS
- CATHETER FOR COMFORT
- HEARING AT END OF LIFE
- EDUCATION OF STAFF IS CONSTANT

ANTICIPATORY EOL PRESCRIBING AT RENAL DOSING

- PAIN: HYDROMORPHONE 0.25-0.5MG Q2-4H SCI PRN FOR SOB OR PAIN (MAY NEED REGULAR DOSE IF ALREADY USING OPIOIDS)
- AGITATION: HALOPERIDOL 0.5-1MG BD SCI (NAUSEA/DELIRIUM) CAN INCREASE
- 2ND LINE: MIDAZOLAM 2.5-5MG Q2-4H SCI PRN FOR ONGOING AGITATION
- TERMINAL SECRETIONS: GLYCOPYRROLATE 200-400MCG Q2-4H SCI PRN (CAN INCREASE)
- ANXIETY: RELATED TO SOB LORAZEPAM 0.5-1MG SL BD – TDS PRN
- MYOCLONIC JERKS: (OR EPILEPTIC) CLONAZEPAM 0.25-0.5MG BD SL / SCI PRN
- NAUSEA: METACLOPRAMIDE 5-10MG Q 8H SCI OR HALOPERIDOL AS ABOVE (AGITATION)

CONTRAINDICATED MEDICINES IN ESKD

- MORPHINE
- RISPERIDONE
- TRAMADOL – WITH CAUTION
- HYOSCINE HYDROBROMIDE
- NSAIDS
- CODIENE

MORPHINE (CONTRAINDICATED)

- “RAPID ACCUMULATION OF ACTIVE METABOLITES IN CKD RESULTING IN CLINICALLY SIGNIFICANT OPIOID TOXICITY INCLUDING SEDATION, CONFUSION, MYOCLONUS, AND RESPIRATORY DEPRESSION. NOT RECOMMENDED IN CKD.”
(DAVISON & KONCICKI 2014)

RISPERIDONE (RENAL POLICY TO AVOID)

- CAN CAUSE POSTURAL HYPOTENSION, DETERIORATION IN PARKINSON'S DISEASE AND, IN THE CASE OF EPILEPSY, LOWERING OF THE SEIZURE THRESHOLD. RISPERIDONE HAS POTENTIALLY HAZARDOUS INTERACTIONS WITH MANY CLASSES OF MEDICATIONS. SEE THE RENAL DRUG HANDBOOK.
 - ANALGESICS, ANTI-DEPRESSANTS, ANTI-EPILEPTICS, ANTI-PSYCHOTICS, ANXIOLYTICS AND HYPNOTICS (THE REASON WHY RENAL AVOIDS THIS) ETC

TRAMADOL (TAKE CARE)

- NOTE THAT THE AUTHORITIES RECOMMEND DIFFERING DOSING REGIMENS. DAVISON & KONCICKI, 2014, DAVISON, CHAMBERS, FERRO ET AL, 2010, KING ET AL, 2011, MURTAGH, 2015 AND THE PALLIATIVE CARE FORMULARY, 5TH ED, 2014 RECOMMEND A BD DOSING SCHEDULE.
- THE RENAL DRUG HANDBOOK, 4TH ED, 2014 RECOMMENDS A TDS DOSING REGIMEN. THE EXTENDED RELEASE FORMULATION OF TRAMADOL IS NOT RECOMMENDED IF THE CR/CL IS $< 30\text{ML}/\text{MIN}$. NOTE: URAEMIA LOWERS THE SEIZURE THRESHOLD AND TRAMADOL MAY BE EPILEPTOGENIC IN ESKD PATIENTS.

HYOSCINE HYDROBROMIDE (CONTRAINDICATED)

- ANTICHOLINERGIC - CAN CAUSE URINARY RETENTION
- NOT RECOMMENDED IN THE TERMINAL PHASE. URAEMIA CAUSES INCREASED PERMEABILITY OF THE BLOOD BRAIN BARRIER TO CENTRALLY ACTING AGENTS. THIS MAY RESULT IN HYOSCINE HYDROBROMIDE CAUSING PARADOXICAL AGITATION. (DOUGLAS C, MURTAGH FEM ET AL. PALLIATIVE MEDICINE 2009;23:103-110).

NSAIDS

- CONTRAINDICATED IN CKD ALTOGETHER INCLUDING THE CREAMS

CODEINE

- "METABOLIZED TO MORPHINE DERIVATIVES AND KNOWN TO CAUSE PROFOUND HYPOTENSION AND CNS AND RESPIRATORY DEPRESSION. NOT RECOMMENDED IN CKD". DAVISON & KONCICKI ET AL (2014).
- NOTE RENAL DRUGS HANDBOOK (4TH ED) PERMITS DOSES COMMENCING 30MG QID IN PATIENTS ON DIALYSIS AND THOSE WITH AN EGFR < 10.
- WE DO NOT RECOMMEND

UTILISE RESOURCES!

http://stgrenal.org.au/sites/default/files/upload/Pallcare-pain-medsv4_21-6-11.pdf

- CONFIDENCE WITH ANTICIPATORY MEDS
- UTILISE THE RESOURCES AROUND YOU
- GAIN PALLIATIVE CARE KNOWLEDGE / EXPERIENCE

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