Advanced Chronic Kidney Disease: Management in Primary Care and Renal Supportive Care

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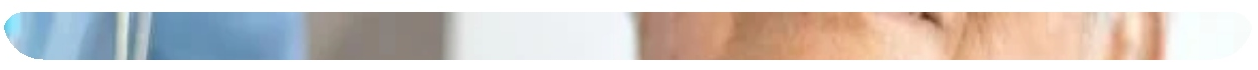
By Consultant, SingHealth Duke-NUS Supportive & Palliative Care Centre; Internal Medicine Supportive and Palliative Care Service, Department of Internal Medicine, Singapore General Hospital



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General practitioners (GPs) are often the first port of call when patients with chronic kidney disease see a deterioration in kidney function – placing them in prime position to guide the patient journey and decision making process. Read all about how GPs in the primary care setting can start important conversations on long-term management, treat common symptoms, and identify when specialist referral for renal supportive care would be beneficial.

CHRONIC KIDNEY DISEASE

Increasing disease burden in Singapore

The burden of chronic kidney disease (CKD) among the Singaporean population has been increasing in recent years, contributed to by diabetes and an ageing population. Diabetic kidney disease is the main cause of kidney failure for patients on dialysis in Singapore.

The number of patients newly diagnosed with stage 5 chronic kidney disease (CKD5), as defined by an estimated glomerular filtration rate (eGFR) of < 15 ml/min/1.73m^2, serum creatinine ≥ 500 µmol/L or initiation of renal replacement therapy, has increased from 1,586 in 2011 to 2,079 in 2019.[1]

Management of advanced chronic kidney disease

Patients with advanced CKD (CKD stage 4 to 5) are assessed by renal teams through a process of shared decision making, to determine a long-term treatment plan which may include:

- Dialysis
- Kidney transplant
- Comprehensive conservative care

While dialysis confers a significant survival advantage for patients with CKD5 in general, this advantage is lost in patients who are **older (> 80 years old)[2], with poor functional status and/or a high comorbidity burden**. Some patients may find dialysis to be burdensome and experience unacceptable reduction in their quality of life.

Therefore, it is important to recognise this group of patients and consider whether a supportive care approach would be more beneficial.

General practitioners (GPs) play an important role in the holistic management of patients with CKD. This will be even more so with the Ministry of Health's recommendation for each household to have their own family doctor from 2023.

This article shares the concept of renal supportive care and explores how GPs may support their patients who have advanced CKD.

WHAT IS RENAL SUPPORTIVE CARE?

Renal supportive care (RSC) is a clinical approach that aims **to improve the quality of life** for patients with advanced CKD by integrating palliative care principles, knowledge and skills into routine renal care.

RSC can be provided at any part of the patient journey, including for those who choose dialysis ***(Figure 1)***.

Figure 1 Renal supportive care encompasses all parts of the CKD5 patient journey[3]

Comprehensive conservative care[4-5] is a holistic patient-centric approach which supports **patients who opt for non-dialytic therapy**. For patients who are unlikely to benefit from dialysis or kidney transplantation as a treatment choice, comprehensive conservative care is an option that should be provided. Patients are assured of continued medical care so they do not go away with the notion that 'nothing can be done', and receive treatment plans that are aligned with their priorities and values.

WHAT IS COMPREHENSIVE CONSERVATIVE CARE?

Holistic patient-centered care for patients with CKD5 which includes:

- Interventions to delay progression of kidney disease and minimise risk of adverse events or complications
- Shared decision making
- Active symptom management
- Detailed communication, including advance care planning (ACP)
- Psychological and spiritual care
- Culturally-aligned social and family support

Comprehensive conservative care does not include dialysis.

Table 1 Definition of comprehensive conservative care[4-5]

CASE STUDY

Background

Mdm T is an 80-year-old woman with CKD5 secondary to diabetic kidney disease and concomitant hypertension, hyperlipidaemia and gout. She was referred by her nephrologist to the RSC clinic for symptom management and psychosocial support.

Laboratory results:
- eGFR 7ml/min
- Creatinine 492 µmol/L
- Urea 28.4 mmol/L
- Potassium 3.8 mmol/L
- Bicarbonate 22.4 mmol/L
- Albumin 37 g/L
- Calcium 2.63 mmol/L
- Phosphate 1.63 mmol/L
- Hb 11.0 g/dL
- Transferrin saturation 31.3%

Symptom and psychosocial assessment

She had mild fatigue, low appetite and poor sleep. There were no symptoms of uraemia or fluid overload. She had low mood due to her husband's cognitive decline and behavioural issues. While her mood gradually improved following her husband's admission to a nursing home, her family still felt guilty about the decision.

Treatment decision and goals of care discussion

She was aware of her CKD5 status and the potential for complications. She readily stated that she did not want dialysis as she was old and life prolongation was not meaningful to her. She had loss of weight but was not keen on further investigations.

She preferred to focus on comfort and symptom control, but was willing to be hospitalised for treatment if deemed beneficial. She decided on inpatient hospice as her preferred place of care and death when her condition deteriorated.

Management plan

1. Her medication list was reviewed and adjusted, taking into consideration her symptoms, pill burden and whether she would have the time to benefit from taking the medications.
2. As her mood was improving, she did not require antidepressants.
3. She was planned for referral to Assisi Hospice Day Care.
4. The RSC team planned to follow up on Mdm T and her family's coping during subsequent appointments

Case Progress

SEP 2019	• eGFR 7 ml/min • First consult at RSC clinic
NOV 2019	• eGFR 5 ml/min • Family had brought her on an overseas holiday; mood was better • Had mild exertional dyspnoea and slightly worse appetite • Given standby mist morphine 2.5 mg Q8H PRN for dyspnoea • Not keen on hospice day care; referred to community palliative nursing
JAN 2020	• eGFR 5 ml/min • On follow-up with community palliative nursing • Condition was stable; mood was good • Referred to Assisi Home Hospice in view of declining GFR
SEP 2020	• eGFR 3 ml/min • Admitted to Singapore General Hospital (SGH) for fluid overload and anaemia • Treated with intravenous iron and recormon • Frusemide dose increased
	• eGFR 3 ml/min • Developed more fluid overload and uraemic symptoms

OCT 2020	• Still able to manage at home and declined admission to inpatient hospice • Given oral haloperidol 0.5 mg Q8H PRN for nausea • Explored her needs and coping with her deterioration
NOV 2020	• eGFR 3 ml/min • Much more fatigued, Hb 6.2 • Admitted to SGH and transfused as she was still functionally well and living alone; felt better after transfusion
DEC 2020	• Admitted to Assisi Inpatient Hospice • Died in end December 2020

SGH Low Clearance Clinic and Renal Supportive Care Clinic

The SGH Department of Renal Medicine set up the multidisciplinary **Low Clearance Clinic (LCC)** in August 2015 with the aim of better preparing CKD patients for end-stage kidney failure and their long-term treatment plan.

Patients with GFR of < 20 ml/min are managed by a multidisciplinary team consisting of nephrologists, advanced practice/specialist nurses, dietitians, pharmacists, social workers and renal coordinators/case managers.

The **Renal Supportive Care Clinic** was started in August 2016 and is embedded in the multidisciplinary LCC service. The RSC clinic team consists of a palliative care consultant, renal nurse clinician with training in RSC, ACP coordinator and pharmacist.

Presently, patients who choose comprehensive conservative care with **eGFR < 9 ml/min or who have significant supportive and palliative care needs** such as poor symptom control and psychosocial issues are referred for a RSC clinic consult.

WHAT WE DO AT THE RSC CLINIC

After every RSC session, the team participates in a **multidisciplinary team meeting** to discuss and identify 'worry board' cases who need closer follow-up or interventions. The RSC team also participates in the multidisciplinary haemodialysis rounds to provide supportive care input for complicated dialysis patients.

OVERVIEW OF RSC CLINIC CONSULT

Symptom assessment and management	• Manage symptoms of CKD such as those from fluid overload and uraemia • Manage other symptoms such as pain, constipation, etc. • Monitor for worsening symptom burden and functional decline • Prognostication
Optimised medical management of CKD and comorbidities	• Chronic disease management • Discussion with nephrologist as needed • Dietitian support in the same setting
Psychosocial assessment and support	• Dedicated renal medical social worker to assess patient on the same day if needed
Medication review and deprescribing	• Pharmacist to help with medication reconciliation, counselling and collaboration on deprescribing

Support for family and caregivers	• Referrals to appropriate community partners such as community nurses or hospice services
Advance care planning	• Referrals to appropriate community partners such as community nurses or hospice service

Table 2

What GPs Can Do in Primary Care

GPs who have been following up on their patients with CKD are often the first port of call when their kidney function begins to decline. Having built strong doctor-patient relationships, **GPs are well-placed to begin the conversation about their patients' values and priorities**. This will help patients to navigate the decision making process when it comes to considering whether dialysis or comprehensive conservative care is right for them.

GP CONSULT FRAMEWORK FOR PATIENTS WITH CKD5

1. Identify patients with CKD5 or advancing CKD	• Assess for symptoms of fluid overload or uraemia (See ***Table 5*** for management of common symptoms in advanced CKD) • Explain complications related to CKD and expected disease trajectory
2. Review treatment plan	• Review medications to optimise chronic disease management and minimise polypharmacy, by stopping medications with limited benefit
3. Discuss treatment preferences and goals of care	• Discuss the patient's values and priorities, and whether interventions such as dialysis would achieve their desired life goals • Consider discussing and completing an ACP

4. Consider referral to a palliative care specialist if complex symptoms or psychosocial issues present	• Patients who are experiencing increasing distress from symptoms or complex psychosocial issues may benefit from assessment and multidisciplinary management from a palliative care specialist
5. Discuss the long-term care plan if decided on non-dialytic treatment	• Review their psychosocial background and care setting • Pre-empt the patient and/or their family on the potential need for hospice services • Explore (if relevant) whether the patient and their family have planned for a Lasting Power of Attorney (LPA) and will
6. Refer to hospice services if deteriorating on conservative care	• Consider referral to home or inpatient hospice services for patients developing worsening symptoms or with poor psychosocial support • Singapore Hospice Council common referral e-form: www.singaporehospice.org.sg/shc-common-referral-form

Table 3

PREVALENCE OF SYMPTOMS IN END-STAGE KIDNEY DISEASE[4]

Symptom	Prevalence	Symptom	Prevalence
1. Fatigue	71%	**6. Insomnia**	44%
2. Pruritus	55%	**7. Anxiety**	38%

3. Constipation	53%	**8. Nausea**	33%
4. Anorexia	49%	**9. Restless legs**	30%
5. Pain	47%	**10. Depression**	27%

Table 4

MANAGEMENT OF COMMON SYMPTOMS OF CKD

Symptom	Management
Fatigue	• Screen for causes of fatigue (e.g., uraemia, fluid overload, anaemia, sleep apnoea, other comorbid conditions such as heart failure) • Iron supplementation and referral to a renal specialist for erythropoiesis-stimulating agents • Advise on non-pharmacological measures including energy conservation strategies and exercise
	• Screen for depression, taste disorders, constipation or diarrhoea • Nutritional counselling and supplementation as required • Review medications for polypharmacy and adverse effects • Review for and treat nausea and/or dyspepsia

Anorexia	• ◦ Nausea: Metoclopramide 10 mg Q8H PRN or haloperidol 0.5 mg Q8H PRN ◦ Dyspepsia: Omeprazole or famotidine • Consider antidepressants such as mirtazapine if there is concomitant depression • Presently, there is no evidence for the use of appetite stimulants such as megestrol in CKD5 patients on conservative management
Pruritis	• Assess for and treat dermatological causes such as eczema and xerosis with topical emollients • Control calcium and phosphate levels • Refer to a renal specialist for treatment of hyperparathyroidism • Systemic therapy with gabapentin/pregabalin or mirtazapine • Start at lower doses particularly in elderly patients, and monitor for adverse effects • Starting doses: • ◦ Gabapentin 100 mg ON, maximum 300 mg/day ◦ Pregabalin 25 mg ON, maximum 100 mg/day ◦ Mirtazapine 7.5 mg ON • Night dose of antihistamine (e.g., hydroxyzine) for light sedation to reduce scratching
Pain	• Assess and treat cause of pain • Avoid nephrotoxic medications such as nonsteroidal anti-inflammatory drugs (NSAIDs) • Use weak opioids such as tramadol with caution, limiting dosage to a maximum of 100 mg/day • Consult a palliative care physician for

	• Consult a palliative care physician for advice if strong opioids are needed

Table 5

WHEN GPs SHOULD REFER TO THE RSC CLINIC

1. Difficult symptom burden and treatment
2. Challenges in decision making for long-term treatment plan, with complex clinical situations or psychosocial issues
3. Multidisciplinary team support required
4. For assistance in ACP and end-of-life care

Referral process

Currently, the RSC clinic is only open to referrals for patients known to the Department of Renal Medicine, SGH.

If you have an advanced CKD patient who may benefit from a consult with a palliative care specialist, you may contact the **SGH GP Appointment Hotline** at **6326 6060** to make an appointment with the Internal Medicine Supportive and Palliative Care Service, which provides specialist palliative care support for the RSC clinic.

GPs who would like more information may contact the following palliative care physicians in the RSC team:

Dr Natalie Woong: natalie.woong.l.l@singhealth.com.sg
Dr Lee Guozhang: lee.guozhang@singhealth.com.sg

CONCLUSION

The burden of chronic kidney disease in our population is significant. With a better understanding of renal supportive care, GPs can play an important part in their patients' decision making process and journey by starting the conversation on long-term CKD management, reviewing chronic disease management and considering specialist referral for shared care.

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Dr Natalie Woong is a Consultant at the Department of Internal Medicine, Singapore General Hospital. She is an accredited palliative care specialist and works with the Department of Renal Medicine as part of the Renal Supportive Care team to provide care for patients with advanced kidney disease.

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GPs can call the SingHealth Duke-NUS Supportive & Palliative Care Centre for appointments at the following hotlines:

Singapore General Hospital: 6326 6060
Changi General Hospital: 6788 3003
Sengkang General Hospital 6930 6000
KK Women's and Children's Hospital: 6692 2984
National Cancer Centre Singapore 6436 8288
National Heart Centre Singapore 6704 2222
National Neuroscience Institute 6330 6363

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