How to Manage Your CKD Patients

Conditions of ↑ CKD Risk?
- Diabetes
- Hypertension
- Cardiovascular Disease
- Age >50 years
- Ethnic / Racial Minority
- Obesity
- Family History of CKD
- Hyper tension in general
- Diuretic usually required
- Dietary sodium <2000 mg/day
- DM - Target HbA1c ~7%
- CKD Complications Testing
  - Anemia - CKD 3+ Evaluation if Hb <13.0 for men and <12.0 for women. Treat iron deficiency first. Use ESA to treat Hb <10 g/dl (Target 9-11.5) or refer to nephrology
  - Acidosis - Bicarbonate goal >22-26 use sodium bicarbonate 850 mg thrice daily
  - CKD-MBD - CKD 3b+ calcium, phosphate, 25(OH) vitamin D, and iPTH. Supplement vitamin D deficiency. If hyperphosphatemia or significant iPTH elevation refer to nephrology
- Vaccination for influenza + pneumococcus
- Nephrology Referral
  - eGFR <30 or ACR >300 mg/g
  - 25% decrease in eGFR (AKI or progressive CKD may be difficult to distinguish)
  - Persistent hyperkalemia /metabolic acidosis
  - Recurrent kidney stones
  - Unexplained hematuria
  - Inherited or unknown cause of CKD

CKD and CVD
- CKD = ↑ CVD risk
- Consider lipid lowering therapy
  - All >50 years
  - 18-50 years at high CVD risk (h/o CAD, DM, h/o ischemic CVA, 10 yr risk of MI >10%)
- ASA for secondary prevention unless bleeding risk outweighs benefits

CKD Progression + Complications
- Blood Pressure Goal <140/90
- Consider BP goal <130/80 only if ACR >300 mg/g
- Avoid ACE-I and ARB in general
- Diuretic usually required
- Dietary sodium <2000 mg/day

Patient Safety
- eGFR <60 = Patient Safety Risk
  - Drug dosing consider eGFR
  - Reduce risk of AKI volume depletion
  - Contrast-induced AKI prevention
  - Avoid contrast or minimize dose
  - Consider isotonic saline infusion before, during and after procedure
  - Withhold metformin, RAAS blockers and diuretics
- eGFR 45 - 59
  - Avoid prolonged NSAIDs
  - Continue metformin use
- eGFR 30 - <45
  - Avoid prolonged NSAIDs
  - Use metformin with close monitoring at 50% dose
- eGFR <30
  - Avoid any NSAIDs
  - Avoid metformin
  - Avoid PCC; lines use single and double lumen central catheters instead
  - Monitor PT INR closely given increased risk of warfarin anticoagulation bleeding

Abbreviations
- ACE-I, angiotensin converting enzyme inhibitor; AER, albumin-to-creatinine ratio; AKI, acute kidney injury; ARB, angiotensin receptor blocker; ASA, acetyl salicylic acid (aspirin); A stage, Albuminuria category; CAD, coronary artery disease; CKD, chronic kidney disease; CKD-MBD, chronic kidney disease mineral and bone disorder; CVA, cerebrovascular accident; CVD, cardiovascular disease; DM, diabetes mellitus; eGFR, estimated glomerular filtration rate; ESA, erythropoietin-stimulating agent; Hb, hemoglobin; HTN, hypertension; iPTH, intact parathyroid hormone; NSAIDs, nonsteroidal anti-inflammatory drugs; 25-OH vitamin D; 25-OH vitamin D; PICC, peripherally inserted central catheter line; PT INR, prothrombin time, international normalized ratio; RAAS, renin angiotensin aldosterone system.

How to Evaluate for Chronic Kidney Disease

Know the criteria for chronic kidney disease (CKD).

• Abnormalities of kidney structure or function, present for >3 months, with implications for health
• Either of the following must be present for >3 months:
  * Markers of kidney damage (one or more)
  * GFR <60 ml/min/1.73 m²

Screen for CKD with two simple tests.
• “Spot” urine for albumin-to-creatinine ratio (ACR) to detect albuminuria
• Serum creatinine to estimate glomerular filtration rate (GFR)

What if CKD is detected?
• Classify CKD based on cause, GFR category, and albuminuria category
• Implement a clinical action plan based on patient’s CKD classification (See flip side)
  * Consider co-management with a nephrologist if the clinical action plan cannot be carried out
  * Refer to a nephrologist when GFR <30 mL/min/1.73 m² or ACR >300 mg/g
• Learn more at www.kidney.org/professionals

Why should you classify CKD?
• To have a more precise picture of each patient’s condition
• To guide decisions for testing and treatment
• To evaluate patient’s risk of progression and complications
• Because neither the category of GFR nor the category of albuminuria alone can fully capture prognosis of CKD

References

Abbreviations
A Stage, albuminuria category; ACE-I, angiotensin-converting-enzyme inhibitor; ACR, albumin-to-creatinine ratio; AER, albumin excretion rate; AKI, acute kidney injury; ARB, angiotensin receptor blocker; ASA, acetylsalicylic acid (aspirin); CAD, coronary artery disease; CKD, chronic kidney disease; CKD-MBD, chronic kidney disease mineral and bone disorder; CVA, cerebrovascular accident; CVD, cardiovascular disease; DM, diabetes mellitus; eGFR, estimated glomerular filtration rate; ESA, erythropoietin-stimulating agent; G Stage, GFR category; Hb, hemoglobin; HTN, hypertension; iPTH, intact-parathyroid hormone; NSAIDs, nonsteroidal anti-inflammatory drugs; PICC, peripherally inserted central catheter line; PT INR, prothrombin time, international normalized ratio; RAAS, renin angiotensin aldosterone system.

© 2014 National Kidney Foundation, Inc. 02-10-6800_IBE