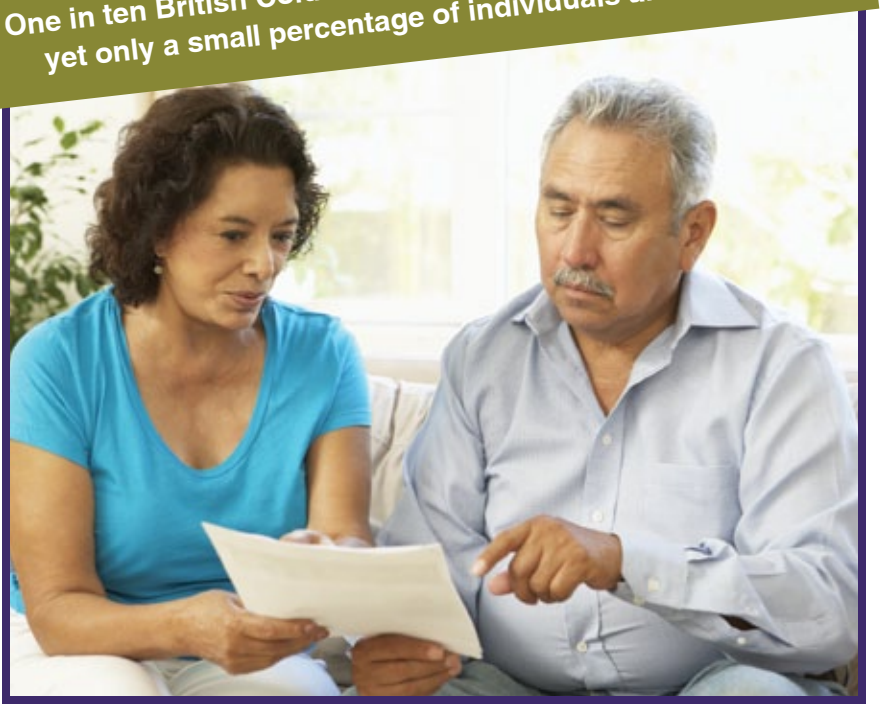
DO YOU HAVE PATIENTS WITH UNDIAGNOSED KIDNEY DISEASE?

BCRenal
an agency of the Provincial Health Services Authority

A guide to early diagnosis of chronic kidney disease **for family physicians**

A GROWING EPIDEMIC

One in ten British Columbians is affected by kidney disease– yet only a small percentage of individuals are screened.



FAST FACTS:

- Chronic kidney disease (CKD) increases the risk of cardiac morbidity and mortality to ten times that of the average person.
- Forty percent of dialysis patients have diabetes.
- The overall five-year survival rate for dialysis patients is worse than all cancers, except lung.
- Many people with impaired kidney function are not diagnosed until after their kidneys fail.

As a primary care provider, you can play a key role in diagnosing and delaying progression of kidney disease.

This brochure highlights key components of the CKD Clinical Practice Guideline, which provides recommendations for the identification, evaluation and management of patients with chronic kidney disease.

The guideline is available online at **www.bcguidelines.ca**.

If kidney disease is caught early, individuals can be educated about diet and lifestyle modifications that are effective in slowing or even preventing progression of the disease.

WHAT ARE THE BENEFITS OF EARLY DIAGNOSIS?

By identifying people with kidney disease as early as possible, you may:

- delay progression of the disease through lifestyle and dietary changes, as well as enhanced care;
- plan for transplantation (possibly from a living donor);
- plan for and educate your patient about dialysis; and
- prepare your patient and his/her family for what's ahead.

WHO IS AT RISK?

Some of your patients are at greater risk than others. They include those with:

diabetes;

hypertension (with or without cardiovascular disease);

a family history of kidney disease;

and those belonging to specific high-risk ethnic groups (First Nations, Pacific Islanders, Asians and African descent).

FAST FACT:

While being over 60 years of age is associated with an increased risk of impaired kidney function, the evidence at this point is not sufficient to recommend screening solely on the basis of age.

WHAT ARE THE SYMPTOMS?

Many patients are asymptomatic at the beginning of their disease, but there are some clues you can watch for:

- foamy or bloody urine
- headaches
- frequent night time urination
- puffy eyes or ankles

As the disease progresses, the following symptoms may also be evident:

- fatigue
- nausea
- restless legs
- anorexia
- polyuria
- itching

WHAT SCREENING IS RECOMMENDED?

The guideline recommends that high-risk patients are screened every 1-2 years (yearly for those with diabetes), using serum creatinine and random urine tests for macroscopic and microscopic urinalysis and albumin/creatinine ratio.

Serum Creatinine/eGFR

The estimated Glomerular Filtration Rate (eGFR), computed from the serum creatinine value, is the best laboratory marker for kidney disease. Most labs in BC automatically report eGFR when a serum creatinine is ordered. (The guideline provides a calculation table for eGFR if this is not the case.)

Persistent eGFR values <60 mL/min (present for >3 months) indicate substantial reduction in kidney function. These need to be correlated with clinical conditions and followed over time.

Note that the accuracy of eGFR for patients over 75 is questionable and may underestimate true kidney function. Values of eGFR <45 should be considered as a likely indicator of decreased renal function and merit further work-up.

Urine Testing
(Macroscopic/Microscopic Urinalysis and ACR*)
Urine test abnormalities, even with persistent eGFR values ≥60ml/min, may indicate abnormal kidney function, either as an isolated condition or as a symptom of a systemic disease. Significant abnormalities include the presence of persistent white or red blood cells (in the absence of infection). Elevation of ACR (>2.0 mg/mmol males; >2.8 mg/mmol females) on two out of three serial tests performed one week to two months apart indicates micro-vascular disease +/- glomerular disease. The guideline includes further information and work-up recommendations.

*ACR is the preferred method by which to assess abnormal levels of albumin.

SCREENING SUMMARY

- Serum creatinine levels and estimated GFR
- Urine testing: macroscopic/microscopic analysis and albumin/creatinine ratio values

ONGOING MANAGEMENT

The guideline provides detailed information and strategies to help you meet the complex needs of patients with CKD, including:

- identifying care objectives and targets for common factors affecting progression and co-morbid conditions (e.g. blood pressure, hemoglobin, CVD risk assessment, blood glucose control, nephrotoxins and drug adjustments, psychosocial health); and
- supporting patient self-management.

Of note:

- Rigorous control of BP has been shown to reduce the risk of complications and mortality rates. Most patients require more than two medications to reach target values.
- Nephrotoxic medications (e.g. NSAIDs, COX-2 inhibitors, aminoglycosides) should be avoided or used with caution in patients with even mild kidney impairment.
- IV or intra-arterial radiocontrast use poses a high risk of acute kidney injury in patients with Stage 4 or 5 CKD and a moderate risk in patients with Stage 3 disease.
- Patients with CKD are at high risk of further acute kidney injury with volume contraction, e.g. nausea, vomiting, diarrhea, or the use of certain bowel preparations.
- Dose adjustments may also be required for medications excreted by the kidneys (e.g. metformin, digoxin and lithium).
- Rapid deterioration in kidney function (a decline of eGFR >10-15% annually) warrants urgent referral to a nephrologist or internist.

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Updated June 2014