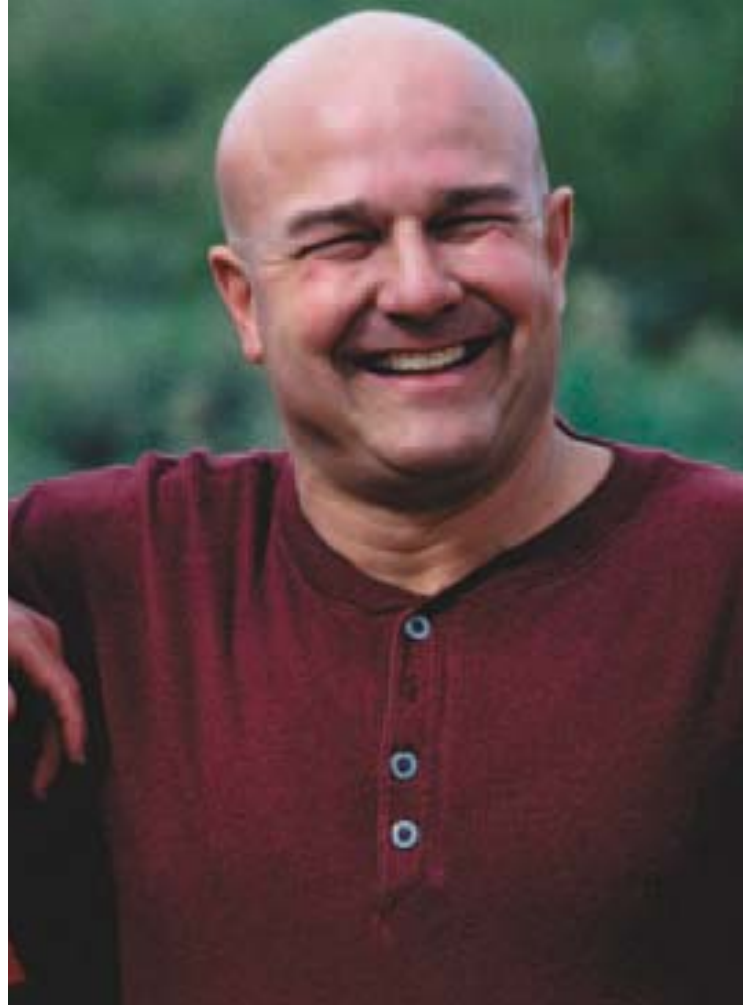


CardioCase of the Month

Target BP and The Right Concoction



By Ellen D. Burgess, MD, FACP, FRCPC

CardioCase Presentation

Mr. SN, is a 54-year-old non-smoker who works as a self-employed contractor. His wife works as a cook at a cafeteria; they have three adult children, two of whom live at home. He was diagnosed with hypertension 10 years ago, and with diabetes five years ago. He has been taking hydrochlorothiazide for his hypertension, and metformin for his diabetes.

His family physician moved away, and it took 18 months to find a new family physician. At that time, his blood pressure (BP) was 154/96 mmHg.

His glycated hemoglobin A (HbA1c) is 8.8%, and fasting blood sugar levels are usually 8 to 10 mmol/L. His body mass index

(BMI) is 28, but he is well muscled due to manual labor. His serum creatinine level is 125 $\mu\text{mol/L}$, serum potassium level is 4.8 mmol/L , and his 24-hour urine collection shows 1.5 grams of protein.

Given this presentation, what should Mr. SN's treatment be at this time? What is the target BP?

What's Your CardioCase Diagnosis?

CardioCase Discussion

Diagnosis

Mr. SN has developed diabetic nephropathy.

Diabetic nephropathy is a kidney disease that develops as a result of diabetes mellitus. Currently, diabetes is the leading cause of kidney disease and of endstage renal disease requiring renal replacement treatments, such as dialysis. This disease damages many organs, including the eyes, nerves, blood vessels, heart and kidneys. In Canada, 30% of new dialysis patients have diabetes; in the U.S., 40% of new renal patients have diabetes.

Clinical Checklist

Mr. SN's target BP is < 130/80 mmHg.

He should:

- a) Be counseled on a low-sodium diet and low-alcohol intake;
- b) Switch to losartan 100 mg/hydrochlorothiazide 25 mg since his BP is not controlled on the diuretic alone and he has diabetic nephropathy;
- c) Consider switching from metformin to another hypoglycemic agent since the risk of lactic acidosis increases at a serum creatinine of 150 mmol/L;
- d) Take low-dose acetylsalicylic acid (ASA) daily for cardioprotection;
- e) Recheck his BP in one month; and add a calcium channel blocker if his BP > 130/80 mmHg; and
- f) Recheck his urine protein excretion in three months (target is < 1 gm/day).



If possible, have him work with the staff at the local diabetes clinic to optimize his blood glucose levels. 

For an in-depth discussion on diabetic nephropathy, see our feature article on page 30.