

Posttest

Instructions

1. Read the supplement and complete the examination.
2. Use a blue or black BALLPOINT pen to complete the CME and evaluation form.
3. Sign and date the form.
4. Mail to: ASN-CME 1725 I Street, NW, Suite 500, Washington, DC, 20006-2425.
5. Answer $\geq 80\%$ and receive the answers to the questions and CME credit.
6. E-mail aworkman@asn-online.org with any questions.

Case 1

T.I. is a 57-yr-old, obese Hispanic woman who is referred by her primary care physician for worsening kidney function and albuminuria (>300 mg/d). She has no complaints except for swelling in her legs. Medical history is relevant for osteopenia, dyslipidemia, hypertension, and type 2 diabetes. She had a hysterectomy 5 yrs ago. She denies smoking and reports occasional drinking. She reports frequently adding salt to her food. Her vital signs are as follows: BP 162/100 mmHg (during the previous two visits, BP readings were 158/94 and 152/98), pulse 76 bpm, body mass index 34 kg/m², and waist circumference 39 inches. Pertinent laboratory results are as follows: creatinine 1.5 mg/dl (estimated GFR [eGFR] 42 ml/min), glycosylated hemoglobin 8.6%, total cholesterol 240 mg/dl, LDL cholesterol 124 mg/dl, HDL cholesterol 28 mg/dl, and triglycerides 481 mg/dl. There is trace albumin in urine dipstick and 452 mg albumin/g creatinine in spot urine. All other laboratory values are within normal limits, including K⁺ at 4.1 mEq/L. Current medications include calcium carbonate 600 mg twice daily, atorvastatin 10 mg/d, Glucovance (glyburide and metformin) 2.5 mg/500 mg twice daily with meals, hydrochlorothiazide 25 mg orally every morning, and ramipril 10 mg/d orally.

1. Which of the following statements is/are TRUE regarding T.I.'s risk for chronic kidney disease (CKD) and cardiovascular disease?
 - A. Diabetes accounts for almost half (45%) of CKD.
 - B. People with both diabetes and CKD have a very high risk for death.
 - C. People with diabetes and microalbuminuria have twice the cardiovascular disease risk of those with normoalbuminuria.
 - D. A and B.
 - E. A, B, and C.
2. Which of the following statements is/are TRUE regarding the control of hypertension in patients with diabetes?
 - A. Hypertension is more difficult to control in patients with diabetes compared with individuals without diabetes.

- B. More than one half of patients with diabetes and hypertension achieve goal BP.
 - C. Fewer than one third of patients with diabetes and hypertension achieve goal BP.
 - D. A and B.
 - E. A and C.
3. Which of the following statements is/are TRUE regarding recommendations for treatment of hypertension in patients with diabetes?
 - A. A multidrug regimen is usually necessary to achieve BP control.
 - B. In patients who are at high risk for kidney disease because of diabetes or other risk factors, there is a clear indication for the use of renin-angiotensin system blockers such as angiotensin receptor blockers (ARBs).
 - C. Moderate to high dosages of renin-angiotensin system blockers and diuretics are usually needed to achieve BP control.
 - D. A and B.
 - E. A, B, and C.
 4. Which of the following statements is/are TRUE regarding monitoring and follow-up in patients with hypertension?
 - A. In most patients, BP should be monitored every week until goal BP is reached.
 - B. In most patients, BP should be monitored every month until goal BP is reached.
 - C. After BP is at goal and stable, it can be monitored every 3 to 6 mo.
 - D. A and C.
 - E. B and C.
 5. What is an acceptable increase in serum creatinine in a patient with more advanced kidney disease (GFR <60 ml/min) after starting treatment with an angiotensin-converting enzyme inhibitor (ACEI) or ARB?
 - A. 10%
 - B. 20%
 - C. 30%
 - D. 40%
 - E. 50%

Case 2

A 62-yr-old white woman presents with a history of stroke, 2 yrs ago, and modest residual gait impairment. Her current BP regimen includes a diuretic and a β blocker. Her creatinine in a recent laboratory evaluation was 1.1 mg/dl (yielding an eGFR of 53 ml/min per 1.73 m²). Her BP recorded today averaged 136/82 mmHg. She is a nonsmoker, and her lipid profile shows an LDL of 78 mg/dl.

6. The PROGRESS study and JNC7 both suggest which combination drug approach has a proven benefit to reduce stroke recurrence?

- A. Diuretic and α blocker
 - B. Diuretic and β blocker
 - C. Diuretic and calcium channel blocker
 - D. Diuretic and ACEI
 - E. Diuretic and vasodilator
7. In light of her eGFR value of 53 ml/min per 1.73 m² which ONE of the following statements best reflects her circumstances?
- A. There is no increase in stroke risk when compared with patients whose eGFR is >60 ml/min per 1.73 m².
 - B. The consequences of antiplatelet therapy, if administered, show a greater risk than benefit at this level of eGFR.
 - C. Her eGFR level is not a contraindication to any particular drug therapy listed in the previous question.
 - D. A 24-h urine collection for albumin would help to define the best therapy for her in view of her reduced eGFR.

Case 3

A 45-yr-old woman presents with type 2 diabetes, obesity, hypertension, proteinuria, and chronic kidney disease. Her current medications include an ACEI (40 mg/d) and a dihydropyridine calcium channel blocker (10 mg/d). A physical examination yields that she is obese (30% above ideal body weight); her BP is 148 to 162/96 to 102; the remainder of the physical

examination is unremarkable save for trace peripheral edema. Pertinent laboratory results are as follows: Serum: Na 140 mEq/L, K 4.1 mEq/L, Cl 106 mEq/L, HCO₃ 22 mEq/L, glucose 95 mg/dl, glycosylated hemoglobin 7.2%, creatinine 1.5 mg/dl, and blood urea nitrogen 18 mg/dl; urine: 24-h protein 6.6/g and 24-h Na 165/mEq.

8. What would be the next agent you would use to treat this patient?
- A. Loop diuretic
 - B. ARB
 - C. Potassium-sparing diuretic
 - D. β Blocker
9. Addition of an ARB to an ACEI would be expected to reduce 24-h urinary protein excretion by what percentage?
- A. 20%
 - B. 30%
 - C. 40%
 - D. 50%
 - E. 80%
10. Adding an ARB (100 mg/d) to an ACEI (40 mg/d) would be expected to have which of the following effects on serum potassium?
- A. No change
 - B. Increased by 0.2 mEq/L
 - C. Increased by 1.0 mEq/L
 - D. Increased by 2.0 mEq/L