ABCDE clinical challenge

Questions for this month's clinical challenge are based on articles in this issue. The style and scope of questions is in keeping with the multiple choice questions of the RACGP Fellowship exam. The quiz is endorsed by the RACGP Quality Improvement and Continuing Professional Development Program and has been allocated 4 Category 2 points per issue. Answers to this clinical challenge are available immediately following successful completion online at www.gplearning.com.au. Clinical challenge quizzes may be completed at any time throughout the 2011–2013 triennium, therefore the previous months answers are not published.

Nyoli Valentine

Single completion items

CPD

DIRECTIONS Each of the questions or incomplete statements below is followed by five suggested answers or completions. Select the most appropriate statement as your answer.

Case 1

Alice Watson

Alice, aged 70 years, presents to your practice concerned about her risk of osteoporosis after her mother (aged 92 years) fractured her hip.

Question 1

What is the approximate lifetime risk of an osteoporosis fracture in women aged over 60 years:

A. 15%
B. 23%
C. 38%
D. 56%
E. 64%.

Question 2

In which of the following scenarios should adjunct pharmacological treatments for osteoporosis be considered:

A. a patient aged 65 years on long term prednisolone (2.5 mg/day)
B. a patient with a fracture following a motor vehicle accident at 75 km/hr
C. a patient aged 83 years with a T-score of –2.5
D. a patient aged 45 years on 100 mg of prednisolone for 2 weeks
E. a patient aged 71 years of age with a T-score of –3.4.

Question 3

Alice is commenced initially on risedronate. Which of the following statements is true of bisphosphonate therapy:

A. combination therapy with strontium is superior to monotherapy
B. femoral stress fractures are an infrequent adverse event
C. osteonecrosis of the jaw is the most common adverse effect of bisphosphonate therapy
D. zoledronic acid intravenous infusion is administered every 6 months
E. optimum duration of bisphosphonate therapy is 5 years.

Question 4

Unfortunately Alice is unable to tolerate risedronate. You consider another pharmacological therapy. Which of the following statements about fracture risk reduction is best supported by current evidence:

A. strontium reduces the risk of vertebral fractures more than nonvertebral fractures
B. raloxifene prevents nonvertebral fractures
C. denosumab reduces the risk of nonvertebral fractures only
D. teriparatide increases bone mineral density only
E. raloxifene is indicated for use in men.

Case 2

Joan Golding

Joan, aged 83 years, resides in a supported residential facility. You wish to reduce her fracture risk.

Question 5

Which of the following is a modifiable risk factor for osteoporosis:

A. female gender
B. older age
C. age at menopause
D. prior fracture
E. low body weight.

Question 6

You consider prescribing an exercise program for Joan. Which of the following exercises is likely to have the greatest impact on bone mineral density:

A. walking
B. cycling
C. skipping
D. swimming
E. isometric exercises.

Question 7

Joan asks about vitamin D supplementation. Which of the following statements is best supported by current evidence:

A. vitamin D supplements in the elderly reduce the risk of hip fractures
B. fluoride should be supplemented in all adults with osteoporosis
C. calcium intake should be approximately 1000 mg/day
D. increased dietary calcium can increase cardiovascular risk
E. calcium supplementation reduces the risk of vertebral and nonvertebral fractures.

Question 8

Joan's daughter asks if her father should be screened for osteoporosis. Regarding screening, which of the following statements is true:

A. patients with low bone density are at highest risk of future fractures

B. men are more likely to be treated for osteoporosis than women
C. osteoporosis in urban communities is undermanaged compared with rural communities
D. individual risk calculators can guide screening
E. evidence suggests all women aged over 50 years should have a bone densitometry test.

Case 3
Donald Fletcher

Donald, aged 76 years, has recently being diagnosed with Paget disease of the bone.

Question 9

What is the most likely presentation of Paget disease in the Australian community:

A. dull boring pain
B. conductive deafness
C. osteosarcoma
D. incidental finding on radiographs
E. humerus deformity.

Question 10

Donald had changes suggestive of Paget disease on his pelvic X-ray. Which of the following is the earliest radiological finding of Paget disease:

A. mixed sclerotic and lytic lesions
B. focal osteolytic lesions
C. cortical thickening
D. bone deformity
E. bone expansion.

Question 11

Donald's alkaline phosphatase (ALP) is elevated. Which of the following statements is true regarding ALP in Paget disease:

A. ALP may be within normal range in patients with Paget disease
B. ALP is commonly raised in renal failure
C. urine N-telopeptide is most useful in monitoring disease activity in patients with Paget disease
D. biochemistry has no role in monitoring Paget disease
E. low vitamin D can artificially increase ALP levels.

Question 12

Donald is commenced on bisphosphonate therapy. Which of the following statements is true of bisphosphonate therapy:

A. bisphosphonates prevent long term complications of Paget disease
B. the usual starting dose of risedronate is 10 mg/week
C. bisphosphonate treatment should be continued long term
D. bisphosphonates should be ceased 3 months before surgery involving pagetic bones
E. bisphosphonates improve quality of life.

Case 4
Sally Ferguson

Sally, 58 years of age, attends for a Pap test. She asks about vitamin D, having just read an article about vitamin D in a magazine in the waiting room.

Question 13

Which is the most correct statement in regards to preventing vitamin D deficiency in a moderately fair-skinned person who is not at increased risk of skin cancer:

A. for most people, about half their vitamin D requirement comes from dietary intake
B. in Adelaide in summer, sun exposure should be advised around noon
C. in Brisbane, sun exposure is recommended mid morning or mid afternoon year round
D. in Darwin, sun exposure is recommended mid morning or mid afternoon year round
E. in winter, a person living in Sydney is advised to have about twice as long around noon in the sun as a person living in Hobart.

Question 14

When taking a history it becomes apparent that Sally avoids the sun. She admits that a friend was diagnosed with melanoma and since then Sally has been highly vigilant about protecting her skin from the sun. After discussion with Sally, you order a vitamin D level test. Which of the following vitamin D results and interpretations is most correct in regards to bone health and muscle function in people living in Australia:

A. a result of 25 nmol/L indicates severe deficiency
B. a result of 49 nmol/L in September indicates a likely need for vitamin D supplementation
C. a result of 48 nmol/L in March indicates a likely need for vitamin D supplementation
D. a result of 55 nmol/L indicates a mild deficiency
E. seasonal variation can cause differences in vitamin D levels between winter and summer of around 10 nmol/L.

Question 15

The results show that Sally has a moderate vitamin D deficiency. In regards to treating moderate to severe vitamin D deficiency, which of the following recommendations is most appropriate:

A. 600 IU/day ongoing
B. 1000 IU/day for 12 weeks, then re-check levels with likely maintenance dose of 600 IU/day
C. 3000 IU/day for 12 weeks, then re-check levels with likely maintenance dose of 1000 IU/day
D. 50 000 IU monthly for 3 months, then stop
E. 500 000 IU single oral dose annually.

Question 16

Sally's mother is aged in her late 70s. Which of the following is correct in regards to vitamin D and the elderly:

A. vitamin D and calcium supplementation together reduce fracture risk
B. vitamin D supplementation alone reduces fracture risk
C. vitamin D supplementation improves muscles strength in the elderly
D. vitamin D supplementation of 300 IU/day is enough for a reduction in falls risk
E. vitamin D supplementation of community dwelling elderly reduces falls risk.