CLINICALCHALLENGE

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 MCQ of the College Fellowship exam. The quiz is endorsed by the RACGP Quality Assurance and Continuing Professional Development Program and has been allocated 4 CPD points per issue. Answers to this clinical challenge will be published next month, and are available immediately following successful completion online at www.gplearning.com.au. Check clinical challenge online for this month's completion date.

Rachel Lee

SINGLE COMPLETION ITEMS **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 – Talay Ozan

Talay Ozan, 52 years of age, is a librarian with newly diagnosed type 2 diabetes. Talay immigrated from Turkey 8 years ago. Together you plan how to monitor and protect her vision.

Question 1

Select the correct NHMRC recommendation about retinal screening for diabetic retinopathy (DR) for different groups of people with diabetes:

A. women with gestational diabetes require yearly screening
B. women with diabetes who become pregnant require screening each trimester
C. those with renal disease require yearly screening
D. those with proliferative DR require ophthalmology review within 1 week
E. those with nonproliferative DR require review within 4 weeks.

Question 2

Talay asks about how visual loss occurs and how common it is. You tell her:

A. the commonest mechanism is proliferative DR
B. the commonest mechanism is macular oedema
C. she has approximately a 25% chance of having DR now
D. 50% of people in her position will require treatment to prevent visual loss
E. none of the above.

Question 3

Talay wants to reduce her likelihood of developing DR. You explain that:

A. the duration of diabetes is the strongest predictor of DR
B. co-existent hypertension is the strongest predictor of DR
C. diabetic control is the strongest predictor of DR
D. blood pressure control has not been found to reduce DR
E. tight diabetic control has been found to reduce DR.

Question 4

When Talay presents for diabetes review 6 months later, her blood pressure is 150/95. You recheck this a week later and it is 145/95. Mild hypertensive retinopathy:

A. is characterised by optic disc swelling
B. is characterised by early neovascularisation
C. is characterised by cottonwool spots
D. must be screened for yearly in patients with hypertension
E. is predictive of adverse cardiovascular outcomes.

Case 2 – Alphons Wieczorek

Alphons Wieczorek, 58 years of age, is a teacher who presents with sudden unilateral visual loss.

Question 5

Alphons suffers from migraines. Select the best statement about visual loss from migraine:

A. visual loss is commonly associated with classic migraine
B. occipitobasal headaches with visual loss are typical of migraine
C. tunnel vision may occur
D. aura classically begins temporally
E. typical negative scotoma includes zigzag lights.

Question 6

You consider nonmigraine causes. Which of the following features on history is most suggestive of giant cell arteritis (GCA):

A. onset of visual loss over several hours
B. visual loss preceded by flashing lights
C. visual loss progresses like a 'curtain' from the periphery
D. unexplained weight loss
E. recent ophthalmic surgery.

Question 7

Alphons has some concerning features suggestive of GCA. Select the most accurate statement about appropriate investigation:

A. thrombocytopenia increases the probability of GCA 6-fold
B. temporal artery biopsy must be performed before commencement of therapy
C. ESR is the most sensitive diagnostic test for GCA
D. an ESR of <29 would be considered normal for Alphons
E. a normal ESR excludes GCA in Alphons' case.

Question 8

Alphons asks if he requires a CT scan. Which of the following examination features is not a commonly agreed indication for a CT brain and orbits:

A. temporal artery tenderness
B. proptosis
C. papilloedema
D. homonymous field defect
E. eye movement disorders.

Case 3 – Sydney Bligh

Sydney Bligh, 63 years of age, is a furniture importer with type 2 diabetes. He presents with sudden visual loss.

Question 9

You make a thorough assessment. Select the most accurate statement about fundoscopy:

A. retinal pallor may indicate retinal detachment
B. dilated vessels may indicate retinal artery occlusion
C. a cherry red macular is a normal finding
D. a cherry red macular may indicate papilloedema
E. widespread nerve fibre layer haemorrhages may indicate retinal artery occlusion.

Question 10

Haemorrhage is unlikely given that Sydney has no known proliferative retinopathy. However, it is an important differential diagnosis of sudden visual loss. Which of the following is true:

A. vitreous haemorrhage typically produces a discrete black scotoma
B. subhyaloid haemorrhage typically presents as a 'shower of black dots'
C. subretinal haemorrhage typically present a as discrete brown scotoma
D. vitreous haemorrhage is typically painful
E. subhyaloid haemorrhage typically produces a mobile scotoma.

Question 11

If you diagnosed retinal artery occlusion, what investigation would be the first line for Sydney:

A. transoesophageal echocardiogram
B. CT angiography
C. fundus fluoroscein angiography
D. CT brain and orbits
E. ESR and CRP.

Question 12

You consider that retinal detachment is the most likely diagnosis in Sydney. Which of the following is true:

A. a 'curtain' descending over the visual field is typical
B. central vision preservation requires especially urgent referral
C. the pupil must not be dilated as this will exacerbate the detachment
D. urgent ultrasound imaging is essential for all patients
E. detachment can be treated in the ophthalmology clinic with laser.

Case 4 – Tony Romano

Tony Romano, 70 years of age, is a retired taxi driver who presents for a renewal of his standard licence. During the assessment you find concerning visual impairment.

Question 13

Visual impairment is defined as:

A. visual acuity worse than 6/12
B. visual field of <10 degrees or less in the better eye
C. visual field of <20 degrees or less in the better eye
D. A and B are correct
E. A and C are correct.

Question 14

You consider cataract as a differential diagnosis for Tony's visual impairment. Which factors may be associated with cataract formation:

A. UV exposure is strongly associated with subcapsular cataract
B. UV exposure is strongly associated with cortical cataract
C. corticosteroid use is strongly associated with cortical cataract
D. there is a strong association between smoking and nuclear sclerosis
E. diabetes is strongly associated with cortical cataract.

Question 15

You also consider age related macular degeneration (ARMD). Select the best response:

A. approximately 2% convert from dry to wet forms per year
B. dry ARMD involves a choroidal neovascular membrane
C. early ARMD causes distortion or scotoma of central vision
D. wet ARMD involves gradual deterioration of the retinal pigment epithelium
E. wet ARMD involves predominantly peripheral visual loss.

Question 16

You confirm ARMD. Tony asks what his family could do to reduce their chances of this condition. You explain:

A. the Amsler grid helps to identify disease onset
B. smoking increases the risk of ARMD 2–3 times
C. dietary antioxidants have been shown to reduce risk
D. zinc supplements have been shown to delay onset of ARMD
E. UV protection significantly reduces the risk of wet ARMD.

ANSWERS TO SEPTEMBER CLINICAL CHALLENGE

Case 1 – Phillip Block

1. Answer C
In primary palmoplantar hyerhidrosis sweating is typically symmetrical, impairs daily activities, has onset before 25 years of age, and can occur for 6 months without apparent cause.

2. Answer A
In typical cases, history and examination is sufficient. If features are suggestive of secondary hyperhidrosis or atypical features are present, targeted investigation is required, including relevant imaging, FBE and TFTs.

3. Answer B
Pitted keratolysis can be an associated condition. It is due to bacterial infection of the stratum by Micrococcus sedentarius and is characterised by a cheesy smell and small pits over the web spaces and plantar surfaces.

4. Answer E
Antiperspirants are only effective in mild cases. Iontophresis can provide symptom relief but must be performed several times per week. Botulinum toxin can provide longer lasting relief but is painful, usually requiring nerve block or other anaesthesia. Surgical management can be complicated by compensatory hyperhidrosis.

Case 2 – The Babic family

5. Answer A
Calcaneal traction apophysitis is a likely diagnosis for activity related rear foot pain in this age group and resolves with apophysical closure. Tarsal coalition may also cause rear foot pain but limits inversion. An accessory navicular may cause activity related midfoot pain. Osteochrondrosis in the forefoot does not always show on X-ray and a more mature foot posture occurs after 7 years of age.

6. Answer D
Jones fractures are prone to delayed healing and should be referred early. X-ray is indicated whenever bone stress facture is a possible diagnosis, although it is not always diagnostic. This may be followed by bone scan, CT or MRI. Internal fixation may be required in some significant fractures. Sesamoid stress fractures are complex and should not be managed by steroid injection.

7. Answer C
Individualised strengthening is the mainstay of treatment and anti-inflammatories can be useful. X-ray and ultrasound is essential in low pain. Second line treatments include topical gylceryl trinitrate.

8. Answer D
'Gel pain' is typical when first putting foot to floor. 'Tiptoe' bouncing and heel walking typically reproduce pain and are more useful than palpation. X-ray evidence of a heel spur is significant in the setting of symptoms.

Case 3 – Olivia Chang

9. Answer C
Parkinsonian tremor is classically a pure rest low frequency tremor, although there may be a postural component after a latent period. It can spread to involve the head and face in severe cases.

10. Answer B
Essential tremor is usually bilateral and symmetrical and can be postural or kinetic in nature. It is classically reduced by alcohol, increases in older groups and is often familial.

11. Answer E
Cerebellar tremor is predominantly an intention tremor that is absent at rest. It is often irregular and jerky with low frequency and may be unilateral or bilateral depending on the aetiology.

12. Answer D
Neuroleptics classically produce a rest tremor. Caffeine and thyroid hormones produce a postural tremor, lithium an intention tremor, and metoclopramide classically produces a rest tremor.

Case 4 – Joe Boffa

13. Answer E
The majority of carpal tunnel syndrome are constitutional. Carpal tunnel syndrome is 4–5 times more common in females, can involve either or both hands, can radiate up the arm to the neck, and is most common in people 30–60+ years of age.

14. Answer A
Contributing work factors include working with frozen foods and in cold environments, high range wrist action, prolonged extreme wrist positions and use of hand held vibratory equipment. The use of protective equipment is also relevant.

15. Answer A
Iron deficiency has no know association with CTS. Acromegaly, diabetes, obesity, thyrotoxicosis myxodemea and pregnancy do have established links.

16. Answer D
General practitioners may be called to make a judgment if their patient's work is a substantial contributing factor. Numerous factors should be considered including the injury, work, constitutional factors and patient lifestyle. There is no 100% rule of thumb in determining the work contribution or what constitutes substantial.

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