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 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.racgp.org.au/clinicalchallenge. Check clinical challenge online for this month's completion date.

Jennifer Presser

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 – Tim Stark

Tim Stark, 35 years of age, attends with headache, a feeling of 'head fullness', cheek pain and offensive green nasal discharge. He has had similar episodes of rhinosinusitis every few months. He had surgery to 'open up his sinuses' several years ago.

Question 1

Regarding chronic rhinosinusitis (CRS), which is most correct:

A. symptoms must be of at least 6 weeks duration
B. maximal medical therapy should include nasal saline irrigations, nasal corticosteroids and antibiotics
C. like the nose, various bacteria colonise the sinuses, which are considered nonsterile
D. superantigens are potent inflammatory mediators produced by colonising fungi
E. antibiotics target bacterial biofilms in CRS.

Question 2

Regarding topical intranasal corticosteroid sprays, which is most correct:

A. the most important factor is patient compliance
B. a minimum trial of 3 months is required
C. there may be a delay in onset of action of 2–3 days
D. when using a nasal spray, the head should be tilted back and the spray directed upward during inhalation
E. potential long term complications such as osteoporosis limit duration of use.

Question 3

Regarding the use of oral antibiotics, which is INCORRECT:

A. level 1 evidence showing effectiveness of antibiotics in CRS is limited
B. macrolides are thought to have both antibacterial and anti-inflammatory effects
C. duration of treatment should not exceed 2 weeks
D. antibiotics should be given as a continuous course
E. antibiotic choice can be guided by anticipated micro-organisms in the absence of swab/culture results.

Question 4

Tim does not improve with maximal medical therapy. Your next management steps could include:

A. CT scan
B. a swab of muco-pus obtained on nasal examination
C. referral to an ENT specialist
D. blood (RAST) or skin prick testing for allergic disorders
E. all of the above.

Case 2 – Faith Morecroft

Faith Morecroft, 63 years of age, presents saying, 'I've got my bronchitis again doctor'. She is coughing and you notice her voice is deep, breathy and hoarse. Faith smokes 25 cigarettes per day and has a 60 pack year history, but says that she 'can't give it up'.

Question 5

Which of the following factors in Faith's history would be 'red flags':

A. voice change lasting 3 weeks despite voice rest
B. high alcohol intake
C. dysphagia
D. haemoptysis
E. all of the above.

Question 6

You discuss vocal hygiene measures with Faith. Which is INCORRECT:

A. avoid prolonged or loud speaking, shouting or singing
B. avoid irritants such as tobacco or marijuana smoke
C. maintain good hydration
D. maintain regular eucalyptus steam inhalations
E. avoid repetitive throat clearing.

Question 7

Regarding benign vocal cord lesions, which is most correct:

A. 10% of patients presenting with a voice complaint have a vocal fold lesion
B. Reinke oedema can cause deepening of the voice in female smokers
C. vocal nodules are most common in the middle of the cord at the position of maximum amplitude
D. surgery is the preferred management for symptoms resolution and to exclude malignancy
E. vocal cord polyps are more common in women.

Question 8

Regarding laryngeal malignancy, which is correct:

A. the incidence of laryngeal carcinoma is roughly 0.4 per 100 000
B. about half are squamous cell carcinomas
C. glottic tumours are often more advanced at presentation than supraglottic tumours
D. most laryngeal malignancies are strongly associated with smoking and excess alcohol intake
E. treatment is with radiotherapy and sometimes chemotherapy rather than surgery.

Case 3 – Connor Buckley

Connor Buckley, aged 30 months, is brought in to see you with 'another ear infection'. This is his fourth episode of acute right otitis media in 12 months. His mother would like another referral to see a specialist to discuss 'grommets' (tympanostomy tubes) again.

Question 9

Regarding recurrent acute otitis media, which is most correct:

A. under 36 months of age, recurrent ear infections are common
B. middle ear effusions last an average of 2 weeks following upper respiratory tract infection or otitis media
C. regular tympanostomy tubes remain in situ for 12–24 months
D. there is good evidence for long term benefit in speech and language development following tympanostomy tube insertion
E. in insertion of tympanostomy tubes a history of recurrent ear disease is the most important consideration.

Question 10

Connor's mother is also wondering if he would benefit from having his tonsils and adenoids removed. Regarding adenotonsillar disease, which is the most correct:

A. obstruction caused by adenotonsillar hypertrophy may be worse in spring with allergies
B. early consideration of adenotonsillectomy should occur in children who have apnoeic periods with snoring
C. morbidity in recurrent tonsillitis is related to the number of sick days
D. in chronic or recurring ear discharge, a diagnosis of cholesteatoma or malignancy may need to be considered
E. all of the above.

Question 11

Regarding trauma to the ear, nose and throat, which is most correct:

A. simple reduction of nasal fracture should be performed within 48 hours after initial injury
B. injury to the ear with a cotton bud does not usually cause bleeding
C. septal haematoma can form in children without nasal fracture
D. a fall with a stick in the mouth, causing a blunt injury with little observable trauma, does not require further investigation
E. laryngeal fracture is a common paediatric injury.

Question 12

Suppurative complications of the ear, nose and throat requiring referral for consideration of acute surgical management, include which of the following conditions:

A. mastoiditis
B. quinsy
C. orbital cellulitis
D. parapharyngeal abscess
E. all of the above.

Case 4 – Janet McInerny

Janet, aged 46 years, presents telling you that yesterday, when talking on the phone, she realised that her hearing in her left ear was much worse than in her right. She had not had any hearing problems or difficulty with phones before yesterday.

Question 13

If Janet has sensorineural hearing loss (SNHL) in her left ear and near normal hearing in her right ear which of the following results would be expected from tuning fork testing:

A. Weber test central; Rinne test both ears positive (AC>BC)
B. Weber test central; Rinne test both ears negative (BC>AC)
C. Weber test localising to the right; Rinne test left ear positive (AC>BC), right ear negative (BC>AC)
D. Weber test localising to the right; Rinne test both ears positive (AC>BC)
E. Weber test central localising to the left; Rinne test right ear positive (AC>BC), left ear negative (BC>AC).

Question 14

History and general examination reveal no risk factors for hearing loss, medical problems or clinical abnormalities. Simple screening tests for hearing suggest Janet's hearing is impaired on the left but functionally normal on the right and tuning fork test results do suggest a left sided sensorineural hearing loss (SNHL). Routine audiology confirms a 40 dB loss in three adjacent frequencies on the left. The most appropriate management plan is:

A. urgent referral today for ENT assessment and MRI scanning
B. nonurgent referral for a hearing aide
C. no further action as a hearing aide is unlikely to be needed if her right ear hearing is normal
D. a good quality CT scan to exclude a space occupying lesion, management as idiopathic sudden SNHL, with ENT referral not required if the CT scan is normal
E. a good quality CT scan to exclude a space occupying lesion, 1 week reducing oral prednisolone and semiurgent ENT referral.

Question 15

You discuss idiopathic sudden SNHL with Janet. Choose the most correct statement:

A. hearing loss is more often bilateral than unilateral
B. about half of patients with ISSNHL will recover their hearing
C. the cause of ISSNHL is known to be a viral infection
D. patients of Janet's age with ISSNHL have lower recovery rates than older patients
E. antiviral therapy, vasodilators and steroid injections in the middle ear all have reasonable evidence for efficacy in patients not responding to oral steroids.

Question 16

Unfortunately, Janet does not recover hearing in her left ear. Which functional difficulties is she most likely to experience if she does not have a hearing aid or other hearing device for her left ear:

A. none as one hearing ear is sufficient for normal functioning
B. difficulty understanding conversation one-to-one in a quiet room
C. difficulty with speech discrimination particularly when there is background noise
D. decreased hearing volume but no distortion of sound
E. difficulty hearing music but little difficulty with speech perception except when at low volume.

ANSWERS TO APRIL CLINICAL CHALLENGE

Case 1 – Poppy and Mary O'Rielly

1. Answer C

Occupational rhinitis occurs commonly in hair salons. This is supported by Poppy's symptoms abating while she is on holidays.

2. Answer E

Rhinitis and nasal congestion are adverse effects of SSRIs, beta blockers and oral contraceptives.

3. Answer B

Intermittent allergic rhinitis occurs for less than 4 days per week or for less than 4 weeks at a time. For symptoms to be classified as mild they should not affect sleep, daily activities, work or school.

4. Answer E

To administer intranasal spray – shake the bottle, look down at the floor, use the right hand for the left nostril, put the nozzle just inside the nose and aim to the side. There is no need to sniff hard.

Case 2 – Dennis Steer

5. Answer A

Wheat is a common food allergen, but is less likely to cause fatal anaphylaxis. Allergies to peanut and tree nuts cause the majority of fatalities from food anaphylaxis. Other contributors are milk, fish and seafood.

6. Answer B

Diarrhoea is usually associated with non-IgE mediated food allergy. In IgE mediated food allergy local oral symptoms occur in most instances. Respiratory difficulties may occur due to upper airway angioedema or asthma. Cardiovascular compromise may cause hypotension and fainting or loss of consciousness. Additional symptoms in IgE mediated food allergy include rash, abdominal pain, nausea and vomiting.

7. Answer E

Seventy to eighty-five percent of fatal food anaphylaxis reactions are not treated with adrenaline in a timely manner. Food anaphylaxis represents 30% of all fatal anaphylaxis and approximately 90% of fatalities had a prior reaction to the culprit food. Up to 20% of people complain of food related symptoms, but the prevalence of true food allergy has been estimated at 1–3%.

8. Answer A

Touch testing is a useful precaution when a person with a food allergy is eating in a strange environment. A tiny portion of food believed to contain no allergen is touched on the lip before eating. A sensation of burning or tingling will usually alert the patient to the presence of allergen.

Case 3 – Anna Ngaliwu

9. Answer E

Skin prick testing is performed to detect the presence of allergen specific IgE to foods, aeroallergens, some venoms, antibiotics and latex.

10. Answer D

A negative skin prick test is helpful as it almost eliminates the diagnosis (negative predictive accuracy >95%) of IgE mediated food allergy. Overall positive predictive accuracy is <50% in food allergy.

11. Answer B

Antihistamines, tricyclic antidepressants, H2 antagonists and neuroleptics all interfere with skin prick testing.

12. Answer C

Results of RASTs are difficult to interpret in patients with very high levels of total IgE (>1000 kU/L), which is not uncommon in patients with severe eczema.

Case 4 – Karley Scalvensi

13. Answer E

A reduced risk for developing allergic disease has been associated with not smoking during pregnancy and a smoke free environment for babies and young children, exclusive breastfeeding for 4–6 months and use of a partially hydrolysed formula, if one is required, in high risk children.

14. Answer C

Early introduction of solids (<3–4 months) has been associated with an increased risk of atopic dermatitis, but there is no evidence that delayed introduction of solids beyond 4–6 months of age is beneficial – it may actually increase the risk of allergic disease.

15. Answer E

All of the listed formulae are extensively hydrolysed. In Australia, only partially hydrolysed formulas (NAN HA, Novalac HA Infant Formula) are available for the purposes of allergic disease prevention.

16. Answer A

Aeroallergen avoidance is recommended only if there is established allergic disease. There is insufficient evidence to recommend either exposure to, or removal of pets for allergy prevention.

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