‘Who came with you?’ A diagnostic observation in patients with memory problems?

The importance of obtaining collateral history when assessing patients attending the neurology clinic complaining of memory difficulties is well known. Patients developing amnesia in the context of Alzheimer’s disease may underplay their difficulties because of cognitive anosognosia, whereas those with purely subjective memory complaints (the “worried well”) may overemphasise difficulties. Memory complaint, preferably corroborated by an informant, is one of the suggested diagnostic criteria of mild cognitive impairment (MCI). Misdiagnosis of memory complaints may occur when no collateral history is available.

For these reasons, all patients referred to my cognitive function clinic are seen, as part of their clinic appointment letter, a request asking them to bring a relative, friend, or carer from whom additional clinical information may be obtained; this is printed in bold type and in a separate paragraph. Despite this, some patients attend the clinic alone. A study was undertaken to measure the diagnostic value of this observation.

As part of an audit of referrals over a 2 year period (September 2002 to August 2004 inclusive), attendance or non-attendance of a relative or friend at each consultation was noted. Diagnosis of dementia was based on DSM-IV criteria, established by clinical interview, neuropsychological assessment and structural neuroimaging. Diagnosis of dementia subtype (Alzheimer’s disease, vascular dementia, dementia with Lewy bodies, frontotemporal dementia) and of MCI followed widely accepted diagnostic criteria. All patients had minimum follow up of 6 months.

Of 183 new referrals seen, 150 (82%; 95% confidence interval (CI) 76% to 88%) followed the written instruction in the clinic appointment letter and attended with a relative, friend or carer; the remaining 33 (18%; 95% CI 4 to 31%) attended alone. In this cohort, 90 patients were diagnosed with dementia and 93 were not demented; three had MCI. Of the 150 patients accompanied to the clinic, 90 (60%; 95% CI 52 to 68%) had dementia; of the 60 not demented, one had MCI. None of the 33 patients attending alone had dementia, although two had MCI.

Hence, if attending the clinic with a relative, friend, or carer (that is, following the instructions given in the appointment letter) were considered a diagnostic test for dementia, it would have a sensitivity of 100% (95% CI 96 to 100%, Wilson method), specificity of 35% (95% CI 26 to 46%), and positive and negative predictive values of 60% (95% CI 52 to 67%) and 100% (95% CI 95 to 100%), respectively.

Positive likelihood ratio was 1.55 (95% CI 1.33 to 1.80, log method), judged unimportant, but negative likelihood ratio (0) was large.

Although not absolute, as those unaccompanied patients with MCI might yet evolve to dementia, the period of follow up for some patients is brief, and clinically established diagnoses may require revision (for example, when neuropathological data become available); these findings nevertheless support the belief that attending the neurology clinic alone, despite written instructions to the contrary, is a robust sign of the absence of dementia.

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References

Laryngeal abductor paralysis can be a solitary manifestation of multiple system atrophy

Laryngeal abductor paralysis (LAP) and stridor are well known features that occur in one third of patients with multiple system atrophy (MSA). The pathogenesis of LAP is thought to be crico-arytenoid abductor muscle denervation, although there is a lack of consistent evidence of motor cell loss in the nucleus ambiguus. More recently, dystonia of the laryngeal abductor muscle has also been proposed. LAP/stridor usually occurs in the advanced stages of the disease, and is considered to be a poor prognostic feature. In contrast, some MSA cases have shown LAP initially, with most of these reported by otolaryngology departments. However, there are no systematic surveys as to the extent to which MSA patients initially present with LAP. We describe the result of a survey of 200 MSA patients conducted in a neurology department.

We reviewed the case records of 200 consecutive “probable” MSA patients who met the inclusion and exclusion criteria. They were 119 men and 81 women, mean age 60 years; 29 had the Parkinsonian form (MSA-P) and 171 the cerebellar form (MSA-C). Among these, eight patients (4%) (four MSA-P, four MSA-C) were shown to have stridor as the initial manifestation (table 1). Stridor was the solitary manifestation in six of the patients, though it was associated with minimal laryngeal signs in two of these six patients (inspiratory gasp in one, hoarseness in one) and REM (rapid eye movement)-sleep related behavioural disorder (“night terror”) in one. In the remaining two patients stridor occurred together with bladder dysfunction or gait ataxia. In the former six patients, stridor was followed by bladder dysfunction in four, constipation in three, tremor/akinesia in one, ataxia in one, and postural hypotension in one. The average interval between the development of stridor and these later symptoms and signs was 3.3 years (range 1 to 6). The average interval between stridor and hospital admission was 5.4 years (1 to 10). In all eight patients, laryngoscopy confirmed that the stridor was caused by LAP. The grade of LAP at the first admission to our hospital (using Isozaki’s laryngoscopy classification, moderate (abductor paresis during waking, paradoxical adduction during sleep) in three and severe (complete paralysis) in five). Among those patients, continuous positive airway pressure was introduced in three, laser incision of the vocal fold was carried out in one, and subsequent tracheostomy was necessary in five.

In the cases presented, it proved true that LAP/stridor can be a solitary manifestation of MSA. The interval between LAP/stridor and hospital admission was rather long (on average 5.4 years), suggesting that the progression of LAP was not very rapid in those patients. Although the initial presentation of LAP/stridor was not common (it occurred in only 4% of all MSA patients), it is clinically relevant because patients with LAP/stridor but without obvious neurological symptoms may seek general physicians or otolaryngologists first. Laryngeal stridor also occurs because of local inflammation or tumours, or from distant causes that affect the vagal nerves, such as upper thoracic or nasopharyngeal carcinoma. If such conditions have been excluded, local neurological causes should be considered. Co-morbid bladder dysfunction (particularly urinary incontinence and post-voiding residual volume of more than 100 ml), postural and postprandial supraventricular, parkinsonism, and ataxia are all red flags suggestive of MSA.

In our eight patients, bladder dysfunction was an early sign and was chronologically correlated with LAP/stridor; this finding is in line with a previous report. These atypical features for a local laryngeal pathology suggest that further studies of the brain are necessary to confirm the diagnosis of MSA.

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<table>
<thead>
<tr>
<th>Patient*</th>
<th>Years from the onset of illness</th>
<th>Laryngoscopy findings†</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. 62/M</td>
<td>Laryngeal stridor</td>
<td>Admission: tracheotomy</td>
</tr>
<tr>
<td>MSA-P</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. 74/F</td>
<td>Laryngeal stridor</td>
<td>Admission: inspiratory gap, hoarseness</td>
</tr>
<tr>
<td>MSA-P</td>
<td></td>
<td>PH</td>
</tr>
<tr>
<td>3. 83/F</td>
<td>Laryngeal stridor, inspiratory</td>
<td>Admission: Akinesia</td>
</tr>
<tr>
<td>MSA-C</td>
<td>gait</td>
<td>tracheotomy</td>
</tr>
<tr>
<td>4. 59/F</td>
<td>Laryngeal stridor, RBD</td>
<td>Admission: CPAP, tracheotomy</td>
</tr>
<tr>
<td>MSA-C</td>
<td>Ataxic gait</td>
<td></td>
</tr>
<tr>
<td>5. 62/M</td>
<td>Laryngeal stridor</td>
<td>Admission: tracheotomy</td>
</tr>
<tr>
<td>MSA-C</td>
<td>Constipation, BD</td>
<td></td>
</tr>
<tr>
<td>6. 57/F</td>
<td>Laryngeal stridor, hoarseness</td>
<td>Admission: tracheotomy</td>
</tr>
<tr>
<td>MSA-P</td>
<td>Hand tremor, Dysphasia</td>
<td></td>
</tr>
<tr>
<td>7. 53/M</td>
<td>Laryngeal stridor, hoarseness,</td>
<td>Admission: sleep apnoea</td>
</tr>
<tr>
<td>MSA-P</td>
<td>BD, erectile dysfunction,</td>
<td></td>
</tr>
<tr>
<td></td>
<td>constipation</td>
<td></td>
</tr>
<tr>
<td>8. 63/F</td>
<td>Laryngeal stridor, ataxic gait</td>
<td>Admission: Sleep</td>
</tr>
<tr>
<td>MSA-C</td>
<td>Hand tremor, Dysphasia</td>
<td></td>
</tr>
</tbody>
</table>

*Age, sex, diagnosis.  
†Laryngeal abductor paralysis: + (mild), ++ (moderate), +++ (severe), Isozaki's classification.  
AHI, apnea hypopnea index; BD, bladder dysfunction; CPAP, continuous positive airway pressure; F, female; HUT, head up tilt (60° for 10 min); M, male; MSA-C, cerebellar form of multiple system atrophy; MSA-P, parkinsonian form of multiple system atrophy; ODI, oxygen desaturation index (dips per hour); PH, postural hypotension; RBD, RLS sleep behaviour disorder; SAS, sleep apnoea syndrome.
PostScript

Competing interests: none declared

References


7 Hughes RG, Gibbins KP, Lowe J. Vocal fold abductor paralysis as a solitary and late manifestation of multiple system atrophy. J Laryngol Otol 1998;112:177-8


Disseminated Pseudallescheria boydii infection successfully treated with voriconazole

A 56 year old, right handed African-American man with past history of left knee osteoarthritis, remote intravenous drug use, remote alcohol and smoking, and seronegativity for hepatitis C was admitted to a local hospital for fatigue, chest pain, 13.6 kg weight loss, night sweats, and vision loss. On examination, a loud systolic murmur was present. An electrocardiogram (ECG) displayed T wave alternans and a transoesophageal echocardiogram revealed severe mitral regurgitation with mitral valve vegetations, ruptured chordae tendineae, and left ventricular ejection fraction of 75%. He was diagnosed as having endocarditis and cytomegalovirus endophthalmitis, and was treated with ceftriaxone, vancomycin, ganciclovir, foscarin, aspirin, metoprolol, lisinopril, nifedipine, and intravenous enoxlod. He developed fever (39.3°C) and his mental status declined. A head computed tomography (CT) scan showed left occipital haemorrhage. His left leg became cold and pale with an ankle:brachial index of 0.4. Blood cultures grew yeast. Voriconazole was begun to amphotericin, flucytosine, and fluconazole. On day 13 voriconazole was begun.

Intravenous heparin, in attempt to salvage the left leg, resulted in left parietal subarachnoid, intraparenchymal, and intraventricular haemorrhage. The causative organism was identified as Pseudallescheria boydii resistant to amphotericin, flucytosine, and fluconazole. On day 13 voriconazole was begun. He underwent urgent mitral valve replacement and left superior and profunda femoral, right internal carotid artery was occluded. He had light perception on the right and was unable to count fingers centrally on the left. He displayed mild left leg weakness, normal reflexes and flexor plantar responses, mild right pronator drift, and diminished left sided proprioception. Ophthalmological examination disclosed bilateral vitreous infiltrates, retinal lesions, segmental retinal detachments, and scattered choroidal inflammation worse on the right. Fluconosine was added.

An ECG revealed a prolonged QT interval, Q waves in II, III, and AVF leads, and signs of left ventricular hypertrophy. The laboratory studies revealed a white blood cell count of 25 800/µl with 60% neutrophils, 23% lymphocytes, 6% monocytes, 1% eosinophils, and 1% bands; haematocrit, 30%; platelets, 207 000/µl; prothrombin T, negative; aspartate aminotransferase (AST) and alanine aminotransferase (ALT), mildly elevated at 79 U/l and 99 U/l, respectively (a finding attributed to active hepatitis C); alkaline phosphatase 96 U/l and the erythrocyte sedimentation rate (ESR) 26 mm/hr. Serological examination for human immunodeficiency virus (HIV) was negative.

A thoracoabdominal CT scan disclosed a 2 x 2 cm mass in the right subclavian and common carotid arteries and a right renal infarct. The left iliac artery was occluded. Intravenous heparin, in attempt to salvage the left leg, resulted in left parietal subarachnoid, intraparenchymal, and intraventricular haemorrhages. The causative organism was identified as Pseudallescheria boydii resistant to amphotericin, flucytosine, and fluconazole. On day 13 voriconazole was begun. He underwent urgent mitral valve replacement and left superior and profunda femoral, and iliac embolectomy. Heparin was discontinued, and he remained in prolonged coma. A head CT scan displayed new right frontoparietal, right anterior cerebral artery (ACA), right posterior cerebral artery (PCA) and bilateral small cerebellar infarcts (fig 1A). A follow up brain magnetic resonance imaging (MRI) scan revealed several new small left frontal and parietal haemorrhages and ischaemic infarcts of the right thalamus, ACC, and PCA along with the left insula, basal ganglia, and parietal lobe (fig 1B). The right internal carotid artery was occluded (fig 1C). The findings were attributed to infectious emboli and haemorrhaging from myotic aneurysms.

On day 38 of hospitalisation the patient’s coma resolved. He was eventually able to follow simple commands, and sit and stand, although expressive aphasia and left hemiparesis remained. His vision improved to 20/800 on the left. He was subsequently discharged to a long term care facility.

Discussion

Pseudallescheria boydii (anamorph or asexual phase: Scedosporium apiospermum) is a ubiquitous saprophytic fungus commonly found in soil, manure, decaying vegetation, and polluted water. Its commonest clinical presentation in the USA is as mycetoma, a chronic limited subcutaneous infection in immunocompetent individuals engendered by minor trauma, and is characterised by granuloma formation and local tissue destruction.1 However, P. boydii has recently emerged as an agent of invasive fungal disease as well, a phenomenon linked to the increasing prevalence of immunosuppression in the community.2 Although endocarditis and endophthalmitis have been described,3 lung, bone, joint, or central nervous system (CNS) involvement is more typical of this organism.4 Infections are classically acquired through penetrating trauma5 or massive inoculation through inhalation, such as may occur in near drowning in stagnant or polluted water.6 Disease subsequently results from contiguous extension and haematogenous dissemination. It is likely that our patient acquired his infection through prior intravenous drug use, resulting in endocarditis with secondary dissemination to eye, kidney, extremities, and brain.

Among the various types of invasive fungal disease attributable to P. boydii, survival rates
appear to be particularly poor with central nervous system and/or valvular involvement. A relatively recent literature review revealed that of 59 patients with documented CNS disease, only nine were known to have survived; no prior reports exist of survivors of endocarditis. Intrinsically resistant to amphotericin B, a mainstay in the treatment of most invasive fungal diseases including aspergillosis and mucormycosis, has been reported repeatedly, a trait undoubtedly associated with poor survival in patients in whom the diagnosis is delayed. We describe the first immunocompetent survivor from P. boydii native valve endocarditis complicated by multiple ischaemic and haemorrhagic strokes and peripheral embolisation.

Successful treatment of invasive disease due to P. boydii hinges upon surgical resection with institution of appropriate antifungal therapy. Miconazole, an imidazole derivative used topically for many dermatophyte infections, was previously the treatment of choice in the light of this organism’s resistance to many commonly used systemic antifungals, including amphotericin B and fluconazole. However, its poor CNS penetration, toxicity profile, and unavailability in the USA as an intravenous formulation render it less than desirable. Of the azole antifungals, voriconazole and ketoconazole have been used successfully in treatment of pulmonary pseudallescheriasis, their poor CNS penetration significantly impairs their therapeutic utility in the treatment of brain abscesses.


Ocular tilt reaction and anterior inferior cerebellar artery syndrome

The ocular tilt reaction (OTR) is an eye-head postural reaction consisting of ipsilateral head and neck tilt, skew deviation, and ocular torsion. OTR indicates either a unilateral peripheral vestibular deficit (inner ear or vestibular nerve) or a unilateral lesion of brain stem pathways from the vestibular nuclei to the interstitial nucleus of Cajal in the rostral midbrain.

The anterior inferior cerebellar artery (AICA) supplies the lateral inferior pontine tegmentum and middle cerebellar peduncle, vestibulocochlear nerve including the root entry zone, inner ear, and anterior inferior cerebellum. Although there has been one report of skew deviation owing to an AICA infarction, the cardinal features of the OTR have not previously been documented. We describe two patients with AICA infarction, each of whom had ipsiversive OTR—one with complete OTR, the other with skew deviation and tonic ipsiversive ocular torsion.

The first was a 58 year old man with long standing hypertension who presented with sudden vertigo and imbalance. On neurological examination, he had bilateral gaze evoked horizontal nystagmus, left peripheral facial weakness and numbness, dysmetria of the left limbs, and gait ataxia. There was no caloric response on the left side. Pure tone audiometry showed 65 dB sensorineural hearing loss on the left side. The subjective visual vertical with binocular viewing was tilted 17 degrees to the left (that is, counterclockwise from the patient’s point of view). Fundus photography showed 25° extension of the left eye and 12° intorsion of the right eye. He had a skew deviation with a right hypertropia of 20 prism diopters in primary gaze (fig 1). Magnetic resonance imaging (MRI) including diffusion images showed acute infarcts in the left middle cerebellar peduncle and the left lateral inferior pontine tegmentum (fig 1).

The second patient was a 58 year old woman with type 2 diabetes mellitus and hypertension who developed severe vertigo, hearing loss, tinnitus on the left side, dysarthria, and imbalance. She had bilateral gaze evoked nystagmus with a horizontal-rotatory component. There was left peripheral facial weakness and numbness, dysmetria of the left limbs, and gait ataxia. Pure tone audiometry showed a 65 dB sensorineural hearing loss on the left side. Fundus photography showed 14° extension of the left eye and 3° extension of the right eye. Prismatic testing showed a skew deviation with a right hypertropia of 6 diopters in the primary position. Subjective visual vertical with binocular viewing was tilted 13° to the left (that is, counterclockwise from the patient’s point of view). Caloric response was absent on the left side. MRI showed new infarcts in the left middle cerebellar peduncle, left lateral inferior pontine tegmentum, and anterior inferior cerebellum, possibly including the flocculus. Two months later the subjective visual vertical was normal. Fundus photography

### References
4. Travis LB, Roberts GD, Wilson WR. Clinical significance of Pseudallescheria boydii: review of

Figure 1  Tonic ocular tilt reaction in patient 1. Note sustained head tilt and concurrent vertical divergence of the eyes (skew deviation). T2 weighted axial magnetic resonance imaging of the brain showed acute infarcts in middle cerebellar peduncle and lateral inferior pontine tegmentum. There is conjugate leftward torsion of the eyes (that is, counterclockwise from the patient’s point of view): a 25° extension of the left eye and a 12° intorsion of the right eye. HT, hypertropia; LT, left; RE, right eye; RT, right. Patient consent was obtained for publication of this figure.
now showed 1° of extorsion of the left eye, indicating that the left eye had been extorted by 13° at the first examination (that is, by 14° minus 9°) and 9° of extorsion of the right eye, indicating that at the first examination the right eye had in fact been intorted by 6° (that is, by 3° minus 9°).

Comment
Most earlier reports of AICA infarction have focused on the brain stem or cerebellar findings. Recently, there have been several reports describing the clinical importance of inner ear symptoms, vertigo and/or sudden deafness. However, a detailed description of OTR as a sign of AICA infarction has not been reported previously.

OTR, a sign of vestibular dysfunction in the roll plane, is characterised by a triad of conjugate ocular torsion, skew deviation, and head tilt. It results from destructive or irritative lesions of central or peripheral graviceptive vestibular pathways. Although head tilt is a common component of OTR, skew deviation with conjugate ocular torsion often occurs without head tilt as in our patient. Thus the pathophysiology of a partial OTR (that is, skew deviation and conjugate ocular torsion without head tilt) is the same as that of a complete OTR, and skew deviation with conjugate ocular torsion is sufficient for the diagnosis of OTR.

In addition to lesions of the central and peripheral vestibular pathways conveying graviceptive signals, lesions of the cerebellum may also result in OTR. Skew deviation is commonly seen with cerebellar infarction. Mossman and Halmagyi described two patients with cerebellar stroke, presumably in the territory of the posterior inferior cerebellar artery, who had conjugate ocular torsion without associated head tilt.‘ These investigators speculated that interruption of nodular inhibitory projections to graviceptive neurons in the ipsilesional vestibular nuclei may have accounted for the contraversive conjugate ocular torsion.‘ Sensorineural hearing loss and canal paresis to caloric stimulation on the left side clearly indicated involvement of the peripheral auditory-vestibular system. Ipsiversive OTR with contraversive peripheral vestibular lesions was described in a previous report.‘ Considering the direction of OTR and known vascular anatomy of the AICA, damage to the inner ear or the root entry zone of the eighth nerve probably accounts for the ipsilesional OTR with AICA infarction.

In conclusion, this is the first report of well documented OTR with AICA infarction. The ipsiversive OTR in these patients probably resulted from infarction of the inner ear or the root entry zone of the eighth nerve.

Acknowledgements
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Table 1

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<th>Score</th>
<th>Motor rTMS</th>
<th>Premotor rTMS</th>
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<tr>
<td>MRVS total score</td>
<td>Mean difference</td>
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<td>95% CI</td>
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<td>AYVS total score</td>
<td>Mean difference</td>
<td>4</td>
<td>2.1</td>
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<tr>
<td>95% CI</td>
<td>-0.3 to 8.3</td>
<td>0.2 to 4.0</td>
<td>2.6 to 3.1</td>
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<tr>
<td>AYVS motor score</td>
<td>Mean difference</td>
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<tr>
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<td>0.5 to 0.9</td>
<td>-0.9 to 2.4</td>
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<td>AYVS vocal score</td>
<td>Mean difference</td>
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<tr>
<td>95% CI</td>
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<td>-1.1 to 2.6</td>
<td>2.4 to 1.4</td>
</tr>
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</table>

AYVS, Adapted Yale Video Scale; CI, confidence interval; MRVS, Modified Rush Video Scale.
Square, London, UK. AH Snijders was supported by Raymond Way Unit, Institute of Neurology, Queen's University Belfast, Northern Ireland, and the Tourette Syndrome Association (USA) and the Movement Disorder Society. AM u¨nchau and M Orth were supported by the Deutsche Forschungsgemeinschaft (DFG). This study was supported by the National Institute for Medical Research (NIMR), National Institute for Health Research (NIHR), and Medical Research Council (MRC).

We conclude that left motor or premotor rTMS appears to be a valid and comprehensive tool to assess tic severity in GTS patients, but it needs to be evaluated further.

Further studies, perhaps using higher intensity rTMS, longer rTMS trains, or bilateral stimulation, are needed to delineate the usefulness of rTMS in GTS patients. In these studies, blinded and independent video rating should be used.

Acknowledgements

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Competing interests: none declared

Figure 1 Video scores before and after each intervention (means and standard error of the mean). (A) Modified Rush Video Scale (MRVS) total score; (B) Adapted Yale Video Scale (AYVS) total score; (C) AYVS motor score; (D) AYVS vocal score.

References


A case of superior cerebellar artery syndrome with contralateral hearing loss at onset

Deafness is rare in ischaemic stroke but sometimes occurs as a result of lower pons infarction. The main cause of such deafness is occlusion of the anterior inferior cerebellar artery (AICA); occlusion of the superior cerebellar artery (SCA), which perfuses the higher pons, causes SCA syndrome and also results in deafness but is extremely rare.1 In the present report, we describe a patient with SCA syndrome, whose initial complaint was contralateral hearing loss.

Case report

A 64 year old male with untreated hyperglycaemia and hypertension was admitted 4 h after the sudden onset of deafness in his right ear. Hearing loss was the only complaint and other neurological signs were absent. Right sensorineural hearing loss was revealed by a hearing test (fig 1A). After several examinations including stapedial reflexes and speech discrimination, an initial diagnosis of sudden deafness was made. However, 8 h later the patient complained of diplopia, vertigo, and nausea. Impaired abducens function in the right eye and bilateral lateral gaze nystagmus were observed. Finger-nose and heel-knee-sham tests suggested left cerebellar ataxia. Hence, a diagnosis of SCA syndrome was made, and argatroban, an anti-coagulant, was administrated. Diffusion weighted magnetic resonance imaging (MRI) 12 h after onset showed infarctions in the left cerebellum (fig 1B) and lateral superior pons (fig 1C). Magnetic resonance angiography showed loss of blood flow in the lower basilar artery (fig 1D). Respiratory failure developed 4 h later, and the next day the patient also showed right hemiparesis, Horner’s syndrome, and bilateral cortical blindness was also present. A diagnosis of SCA syndrome with hemiparesis and cortical blindness was made.

A fluid attenuated inversion recovery (FLAIR) image 2 weeks later showed an enlarged infarction in the left cerebellum, and a new infarction in the right cerebellum, dorsal pons, and bilateral occipital lobes (fig 1E). The patient’s symptoms remained unchanged 3 months later.

Discussion

SCA syndrome shows ipsilateral cerebellar ataxia and Horner’s syndrome, contralateral superficial sensory disturbance and hearing loss, as well as nystagmus toward the impaired side, vertigo, and nausea.2 Fibres from the contralateral auditory nucleus join the lateral lemniscus, pass into the brain, and terminate in the hearing centre. Therefore, impairment of the lateral lemniscus on one side causes hearing loss on the other. In SCA infarction, the ischaemic lesion occurs in the area where fibres from the nucleus have already crossed, and therefore sensory hearing loss is observed in the contralateral side.

We describe a rare case of SCA syndrome which began with deafness in one ear. Although deafness sometimes occurs as a result of brainstorm infarction, most cases of ipsilateral hearing loss are due to AICA infarction.3 To our knowledge, the study by Doyle et al is the only previous report of hearing loss due to contralateral SCA infarction.3 Amarenco et al described a large series of SCA syndrome cases, where no patient showed contralateral deafness.4 The present report presents an important finding regarding symptoms of ischaemic stroke, and suggests that hearing loss, although rare, can be the first symptom. It is necessary to carefully observe patients with sudden deafness.

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What constitutes the “core knowledge” of neurology that all medical students should reasonably be expected to learn? This is a question that Lecture Notes: Neurology (LNN) and Essential Neurology (EN)—two stalwarts of the medical student library—continue to grapple with in their latest editions.

EN, longer but with fewer chapters than LNN, tackles subjects in greater depth (and hence claims to be a review text for MRCP), whilst LNN has greater breadth, with suggestions for extra reading and key points summarising each chapter. Both texts incorporate case histories, somewhat more successfully in EN if only because the answers are physically separate from the questions for readers to pause and think about each presentation. Illustrations seem more integral to the text in EN, but this volume does have some surprising typographical gaffes—for example, Brown-Séquard, L’Hermitte; Angell Robertson with a hyphen. I enjoyed reading about “messy breakfast syndrome” and “Kellogg’s epilepsy” which, like “flying simplex syndrome”, are variant names for juvenile myoclonic epilepsy. Considering my experience of general neurological clinics, I would have valued more discussion in EN on “neurologically unexplained symptoms”, which seem so frequent, and a specific section on neurofibromatosis, the commonest monogenic disorder that I see, albeit rarely.

How should the undergraduate neurology text develop, assuming that it is not wholly superseded by internet browsing? Should there be more emphasis on expert consensus diagnostic criteria and management guidelines, rather than succinct qualitative descriptions of neurological conditions, facilitating pattern recognition, and their treatment? Should there be greater reference to the evidence base (and its inadequacies)—for example, citing of systematic reviews? These are issues to be addressed by the authors in future editions, but for now one has no hesitation in recommending either of these volumes to medical students, or both, since it would be invidious to choose one as “better”.

A J Larner

A historical dictionary of psychiatry


Edward Shorter is Professor of History of Medicine at the University of Toronto and this 338 page volume is claimed to be the first “Historical Dictionary of Psychiatry”. As always in alphabetical order, discovery of individual entries is easy and an index takes us to words embedded in the text, more in encyclopaedia fashion.

Neurology without physical signs? The neurologist may still feel this is adequate definition to words embedded in the text, more in encyclopaedia fashion.
the fields of neurology, psychology, and psychiatry (take, for example, Adam Zeman's *Consciousness, a User's Guide*). Thus Gestalt merits its long entry and the wholeness of this book is enhanced by a guide to pronunciation of difficult names that is embedded in the text and thus for example, helpfully, we are given *Ho-ka* for Alfred Erich Hoche. This is a sort of bilingual dictionary that guides the writer and is a standard work the writer should have at his side. Several individuals in the Menninger family are grouped together and give us insight into the medical achievements of father and sons. Neurologists will not be surprised to find Jung and Kraepelin, and happily also stumble upon James Parkinson, Charcot, and Wernicke, each wearing his psychiatry hat. The electrical circuitry that binds our specialties includes an entry on Hitzig. Lest all this history become too much, the entries on anxiety and phobias cover a substantial seven pages. This volume will assist neurologists, psychologists, and psychiatrists in their quest for learning; medical authors should find it very handy indeed.

**C Gardner-Thorpe**

The Auditory Cortex, A Synthesis of Human and Animal Research


A spirit who hears me tapping/The five-sensed cane of mind

Amid such unguessed glories/That I am worse than blind.

H Kemp, Blind, 1919

Most clinical neurologists scarcely spare a thought for the auditory brain: it is what takes over where the VIIIth nerve ends, and if they think of it at all, it is probably in connection with such exotic maladies as cortical deafness or curios like musical hallucinations. But by any criterion this is an untapped resource - from pitch-difference limens it is but a few synapses to Mozart and Shakespeare.

I attended the scientific meeting that spawned this book, and so I had the odd experience while reading it of hearing in my mind's ear the cut and thrust of platform discussion parodied to the more sober exchanges of scientific prose. For the auditory neuroscientist, the book provides a state of the art overview of the field, refreshingly catholic in its scope. There are idiosyncrasies, but they are the quirks of luminaries, and all the more valuable for that. No question, then, that the book will please the crowd for whom it was intended. But is there anything for the neurologist?

**Mechanism and management of headache, seventh edition**


As a general rule, it is safe to assume that any textbook entering a seventh edition does so on its merits and must be worth reading. The latest edition of the classic *Mechanism and Management of Headache* by Lance and Goadsby does not disappoint. It is occasioned not just by the passage of time but also by advances in the field of headache that make a new edition necessary. Among these, the long-awaited revision of the International Classification of Headache Disorders is the most important, as it has created some entirely new headache entities and significantly altered criteria for others. New information about the structural consequences of seemingly benign headache disorders - iron deposition in the brainstem, an increased prevalence of clinically silent ischaemic brain lesions in migraineurs, for example - and impressive gains in understanding of the basic pathophysiology of headache also demand explication for practising physicians. So too do new "hot topics" such as the possible connection between patent foramen ovale and aura, or the use of nerve stimulators to treat various forms of headache. And finally, the treatment landscape for headache disorders, notably migraine, has changed considerably since publication of the sixth edition: new triptans, the advent of topiramate for prophylaxis, the increasing popularity of pre-emptive treatments for migraine, have added to the treatment chapter, and other tables in this chapter are more carefully organised, larger, and more readable than those in previous editions.

Not unexpectedly, the chapters dealing with headache classification and pathophysiology have undergone the most extensive revision. Updated, timely information about natural treatments has also been added, reflecting the reality of patient interest and enthusiasm for such things. A new table on clinical stratification of acute, specific migraine therapies has been added to the treatment chapter, and other tables in this chapter are more carefully organised, larger, and more readable than those in previous editions. A small oversight is the retention of the older term "tension headache" in many places - perhaps done to save space, but if so at the expense of the subtle but important implications conveyed by the longer term "tension-type."

**C J Warren**

Reference


Oxford handbook of psychiatry


Psychiatry, third edition, Oxford core texts


The Oxford Handbook of Psychiatry is a wonderful little book. The "little" applies to its size
and not its stature, as it is actually over 900 pages long and packed with a wealth of useful and interesting information. There has clearly been a tremendous amount of effort put into its production including the piloting of various versions with local SHOs. Although it is aimed primarily at the SHO, it would be a useful book for psychiatrists of all levels because it is so comprehensive. It provides discrete chapters for each type of psychiatric disorder, which contain key facts about the illness with a focus on management, both immediate and long term. These are preceded by several chapters on assessment and followed by a number of chapters devoted to specific considerations such as ethics and therapeutics in specific circumstances, the law, how to deal with unusual situations, pregnancy and co-morbid medical conditions. If that is not all, there are chapters devoted to the various types of psychotherapy and evidence-based psychiatry and there are lists of useful contact addresses and websites, ICD10/DSMIV diagnostic codes, mental health act section codes, reference ranges for common blood and urine tests, and readily accessible instructions for rapid tranquillisation. Interspersed within this information are a number of “extras” in pink shaded boxes that add richness to the text and provide very enjoyable reading. Examples include a Shakespeare sonnet on death, a list of past and present famous people with an affective disorder, quotes from Kraepelin, and the story of Oedipus.

This is an update of the well regarded text for Oxford Press is the third edition of Psychiatry. Another recent psychiatry publication from University Press. The information is very well laid out in easily digestible sections. There are also more improved version is highly recommended to those with an affective disorder, quotes from Kraepelin, and the story of Oedipus.

The Editor is grateful to the following, who have assisted in the assessment of papers during the past year.

Volume 76 Assessors

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