

Surprisingly paediatric and adult neurology practice appear, superficially, separate disciplines with training pathways that rarely cross. The truth is that we, in time, will inherit some, though not all patients, and knowledge of neuropaediatrics is an essential part of our training curriculum. There are obvious points of contact such as the “handover” of the adolescent with epilepsy and the presentation of adult disease in childhood. The adult, late onset of childhood disease, however, taxes most neurologists, as does knowledge of the lexicon of congenital abnormalities. In our practice we commonly encounter persons with learning difficulties and cerebral palsy often without an informed understanding of the complexities that underlay such generic terminologies. Also the neuropsychiatric syndromes in childhood may well persist into or manifest in other ways in adult life. This supplement cannot hope to provide a comprehensive coverage of neuropaediatrics, a specialty in its own right. With the trainee’s needs in mind, and with the guiding hand of Chris Verity, we have selected topics that are probably not normally addressed in the average trainee’s programme in the hope that they will encourage a greater understanding.

Our route map will attempt to cover some of the areas where there is more conventional overlap with adult neurology, where familiar “adult” diseases present in the paediatric age range and some where paediatric disease present in adults. Other topics, such as neuromuscular disorders, oncology, and infections will be dealt with in future issues of *Neurology in Practice*.

KEY REFERENCES

Headache

- ▶ Acute pain in children: migraine and headache in childhood and adolescence. Annequin D, Tourniaire B, Massiou H. *Pediatr Clin North Am* 2000;47:617–31.

This comprehensive review outlines definitions, classification, diagnostic evaluation and treatment options.

- ▶ Pediatric headache. Linder SL, Winner P. *Med Clin North Am* 2001;85:1037–53.

A complimentary well referenced review addressing prevalence and natural history of childhood headache disorders. The role of 5-HT 1b1d agonists is discussed as well as other acute treatments. The lack of randomised controlled trial data in childhood prophylaxis is emphasised

- ▶ Treatment of childhood headaches. Gupta A, Rothner AD. *Current Neurology & Neuroscience Reports* 2001;1:144–54.

A further well referenced review outlining evidence for treatment, efficacy and side effects.

- ▶ Physical and psychological correlates of primary headache in young adulthood: a 26-year longitudinal study. Waldie KE, Poulton R. *J Neurol Neurosurg Psychiatry* 2002;72:86–92.

This important study shows migraine and tension-type headache to be distinct disorders with separate developmental characteristics. The authors also suggest that combined headache has separate specific features.

- ▶ Childhood headache, stress in adolescence, and primary headache in young adulthood: a longitudinal cohort study. Waldie KE. *Headache* 2001;41:1–10.

The same author elaborates on the relations between stress and primary headache disorders in childhood and adolescence, particularly helpful to the adult neurologist.

Stroke: ischaemic/haemorrhagic

- ▶ Arterial dissection and stroke in children. Fullerton HJ, Johnston SC, Smith WS. *Neurology* 2000;57:1155–60.

The authors, as a result of a Medline search, define characteristics of arterial dissection in 118 cases. Male predominance, intracranial location, and absence of trauma distinguish anterior circulation arterial dissection from its adult counterpart. Vertebral artery dissection appears to present similarly across all ages.

- ▶ Deaths from stroke in US children 1979–98. Fullerton HJ, Chetkovich DM, Wu YW, et al. *Neurology* 2002;59:34–9.

While in adults, over the last two decades, control of risk factors has resulted in declining mortality, childhood trends had not previously been explored. This study addresses stroke mortality (ischaemic and haemorrhagic, including subarachnoid haemorrhage) in the under 20s. The study provides

Correspondence to:
Professor I Bone, Department
of Neurology, Institute of
Neurological Sciences,
Southern General Hospital,
1345 Govan Road, Glasgow
G51 4TS, UK;
i.bone@clinmed.gla.ac.uk

valuable epidemiological data and, similar to adults, shows a dramatic decline. The epidemiology of childhood stroke and better characterisation of risk factors is required

- ▶ Minor head injury as cause and co-factor in the aetiology of stroke in childhood: a report of eight cases. Kieslich M, Fiedler A, Heller C, *et al.* *J Neurol Neurosurg Psychiatry* 2002;**73**:13–16.

On the subject in childhood risk factors this small study concerns eight patients with compelling evidence of ischaemic stroke within hours (mean 16.3) of minor head trauma. Endothelial injury including dissection is postulated, and the authors suggest the frequency of trauma in idiopathic childhood stroke is underestimated. The presence of extrapyramidal features in childhood as opposed to adult hemispheric stroke is intriguing.

- ▶ Stroke and the child's brain: an overview of epidemiology, syndromes and risk factors. DeVeber G. *Curr Opin Neurol* 2002;**15**:133–8.

This comprehensive review pulls together a great deal of data on epidemiology and current state of knowledge of vascular risk factors in the young.

- ▶ Infectious and inflammatory disorders of the circulatory system and stroke in childhood. Takeoka M, Takahashi T. *Curr Opin Neurol* 2002;**15**:159–64.
- ▶ Chickenpox and stroke in childhood: a study of frequency and causation. Askalan R, Laughlin S, Mayank S, *et al.* *Stroke* 2001;**32**:1257–62.

The role of infection in childhood stroke is attracting great attention. The later study showed that 22 (31%) of 70 consecutive children with arterial ischaemic stroke had varicella infection in the preceding year (9% of controls). Basal ganglia infarcts were more common; vascular imaging showed large vessel stenosis. Varicella is postulated as an important risk factor and the impact of immunisation on the incidence of childhood stroke is worthy of further study

- ▶ Intracranial aneurysms in Ehlers-Danlos syndrome type IV in early childhood. Kato T, Hattori H, Yorifuji T, *et al.* *Pediatr Neurol* 2001;**25**:336–9.

This study serves to remind that Ehlers-Danlos syndrome type IV (the neurovascular form) presents in children but also, more commonly, in adults with intracranial aneurysms (often fusiform), abdominal aneurysms, and arterial dissections without skin or joint manifestations.

Demyelisation: multiple sclerosis variants/acute disseminated encephalomyelitis

- ▶ Early onset of multiple sclerosis: a longitudinal study. Boiko A, Vorobeychik G, Paty D, *et al.* *Neurology* 2002;**59**:1006–10.

The clinical course of multiple sclerosis in 116 patients with onset before 16 years is studied. The prevalence of such early onset disease is 3.6%. A relapsing and remitting course, high frequency of relapses, early disability, and the presence of malignant cases suggests to the authors early use of disease modifying treatment.

- ▶ Interferon-beta treatment in patients with childhood-onset multiple sclerosis. Mikaeloff Y, Moreau T, Debouverie M, *et al.* *J Pediatr* 2001;**139**:443–6.

A report of their experience from one of the few groups with expertise in managing children with these drugs.

- ▶ Clinical and neuroradiologic features of acute disseminated encephalomyelitis in children. Hynson JL, Kornberg AJ, Coleman LT, *et al.* *Neurology* 2001;**56**:1308–12.
- ▶ Multiple sclerosis, acute disseminated encephalomyelitis, and related conditions. Rust RS. *Semin Pediatr Neurol* 2000;**7**:66–90.

Two papers that review acute disseminated encephalomyelitis and multiple sclerosis variants in children. The former paper address radiological and clinical findings but also reviews treatment advocating steroids despite the lack of randomised controlled trial data.

Inborn errors of metabolism

- ▶ Inborn errors in metabolism as a cause of neurological disease in adults: an approach to investigation. Gray RG, Preece MA, Green SH, *et al.* *J Neurol Neurosurg Psychiatry* 2000;**69**:5–12.

Excellent review of inborn errors of metabolism, that tend to be thought of as paediatric diseases, that can present in adult life. Worth keeping in your brief case.

Societies/patient and family support groups

- ▶ www.cafamily.org.uk

Many children suffer serious neurological disability, often with a rare syndrome. The majority of such children are cared for at home. This UK charity offers support and advice to parents by providing an A–Z of websites, practical advice, and information. Families caring for disabled children face isolation, lack of responsive support services, inadequate information, and inevitable financial worries. This invaluable site allows contact and exchange of experiences between families, with detailed information on over 1000 syndromes and disorders. Do visit it.