designing future studies to evaluate the use of dexamethasone in bacterial meningitis, were it not for the immense practical difficulties in recruitment for, and conduct of, such studies, which will be made immensely more difficult by the virtual disappearance of meningitis caused by Haemophilus influenzae type b in developed countries.

I think that Prasad and Haines, while giving a complete picture of the characteristics of the perfect study, contribute very little to the readers' ability to use the available, if imperfect, data in the most clinically useful manner. The sensitivity analysis shown in table 3 is inappropriate and misleading, even as a worse case scenario. The number of subjects withdrawn from the analysis includes both children who are excluded because of diagnoses other than bacterial meningitis, primarily aseptic meningitis, and children with bacterial meningitis who were lost to follow up. It is clearly unreasonable to equally assign patients with aseptic meningitis to the treatment and control group and then assign all such patients in the treatment group as having had an adverse outcome and all patients in the control group as having a favourable outcome as it is known that aseptic meningitis is rarely, if ever, associated with adverse sequelae. The only other work presented by the authors is a stratified analysis of the study by author which confirms that their overall findings of reduced mortality remained after stratification.

In summary, I think that only the most dramatic of treatment benefits in the most rigorous of trials could survive sensitivity analysis as exacting as that tabulated by Prasad and Haines. I do not consider that the results of this sensitivity analysis can reasonably be interpreted as showing lack of demonstrable benefit from dexamethasone in bacterial meningitis. In addition to the concern which the authors rightly have for demonstrating a favourable risk-benefit ratio in a real life clinical setting, there is also the concern that patients may be denied the benefit of an effective treatment which has been shown "unreasonable" assignment of adverse outcome to the treatment group, particularly for patients with meningitis and it cannot reasonably be interpreted as showing lack of demonstrable benefit from dexamethasone in bacterial meningitis; (3) the "paediatric benefit" of an effective treatment which has been discounted by inappropriate and misleading handling of the data. I take each point in turn.

If bacterial meningitis has virtually disappeared from the developed countries, future studies can and should be undertaken in developing countries where it is still a major public health problem. This is all the more necessary because maximum use of dexamethasone will occur where meningitis occurs. As we have shown in our paper, the studies to date have limited internal validity and generalisability.

Our sensitivity analysis is appropriate and revealing because it shows the weakness of the evidence available on the subject. This is what other authors have also recommended. McIntyre has an incorrect notion about the place and purpose of a sensitivity analysis. Firstly, this kind of analysis is required when authors do not report intention to treat (ITT) analysis or do not provide enough information to allow such an analysis and do not report steps taken to protect their analysis from bias. Most trials of treatments (whether dramatic or otherwise) do carry ITT analysis and therefore, sensitivity analysis is not required. If it is required, its purpose, as reported in our paper, is to assess the robustness of conclusions based on inadequate data and it is not to show the presence or lack of benefit. The inadequacy may be in terms of poor recording of risks or excessive losses to follow up. Almost any drug can be proved beneficial, if patients with adverse effects of the drug are withdrawn from the analysis or adverse effects are not counted. Although patients with aseptic meningitis rarely have a poor outcome, they are not immune to adverse effects of dexamethasone. Certainly, it is not reasonable to assume that all patients with aseptic meningitis given dexamethasone will have an adverse outcome, but to this extent, all sensitivity analyses with worst case scenarios are unreasonable. But it serves its purpose by showing that the published evidence is not strong and it has not been proved beyond doubt that dexamethasone does more good than harm. However, "absence of proof" is not the "proof of absence". If we wish to base our practice on stronger evidence—as we should—we need more studies and proper analysis of the primary data collected from the investigators of the primary studies. Studies are proceeding in both directions. We and some investigators in Holland are conducting randomised trials of dexamethasone in adults with bacterial meningitis and a Cochrane review of the primary data is planned.

The third point by McIntyre is more profound. It has at its heart questions such as: "is it unethical to withhold a potentially effective treatment the risk-benefit profile of which is not studied adequately?"; "when are randomised trials of a treatment unethical?"; "when is the evidence good enough to make strong recommendations?" and so on. These are issues about the science and ethics of practice of medicine. The available space will not allow me to do justice to the issues involved. I will simply state that until we have shown "a favourable risk-benefit ratio of a drug in real life clinical setting", there is no justification to subject all our patients to risk of adverse effects of the drug except in randomised trials. It is true that "ways of science" and evidence (randomised trials being the best method) do require denying some patients what may turn out to be beneficial, but the other way—policies advocating clinical use of a drug without proper evaluation of the risk-benefit ratio—is far too dangerous to be acceptable.

PETER MCINTYRE
Westmead Hospital,
Westmead NSW 2145,
Australia


Prasad replies:
I read with interest the letter by McIntyre. He raises three points: (1) future studies will be difficult because of the virtual disappearance of meningitis in developed countries; (2) our sensitivity analysis is based on "unreasonable" assignment of adverse outcome to the treatment group, particularly for patients with meningitis and it cannot reasonably be interpreted as showing lack of demonstrable benefit from dexamethasone in bacterial meningitis; (3) the "paediatric benefit" of an effective treatment which has been discounted by inappropriate and misleading handling of the data". I take each point in turn.

Announcement from the British Neuro-psychiatry Association: 1996 summer meeting
The 1996 Summer meeting will be held on 14-16 July at Robinson College, Cambridge. It will include topics on neuro-development, language, and the presentation of short scientific papers and single case videos by members. The Association’s AGM will be held on 16 July.

For further details of these meetings please contact: Sue Garratt, Administrative Assistant, BNPA, 17 Clocktowr Mews, London N1 7BB. Telephone/Fax: 0171 226 5949.

For details of membership of the BNPA, which is open to medical practitioners in psychiatry, neurology, and related clinical neurosciences, please contact: Dr Jonathan Bird, Secretary BNPA, Burdon Neurological Hospital, Stoke Lane, Stapleton, Bristol, BS16 1QT. Telephone: 01179 701212 ext 2925/2929 or Sue Garratt at the address given above.

All titles reviewed here are available from the BMJ Bookshop, PO Box 295, London WC1H 9TE. Prices include postage in the United Kingdom and for members of the British Forces Overseas, but overseas customers should add £2 per item for postage and packing. Payment can be made by cheque in sterling drawn on a United Kingdom bank, or by credit card (Mastercard, Visa or American Express) stating card number, expiry date, and your full name.


This is a multi-author book comprising a reference text for those readers with a highly
the book. The section I particularly like is the "selected pictorial index" which, in con- trast with the rest of the book, is very useful as a quick reference.

My major criticism of the book is its excessive length. There are extensive refer- ences at the end of each chapter which are not directly referred to in the text, and as such are useless in my opinion. There is much duplication without making significant new points e.g. there are over forty cases dedicated to MR images of meningioma at various sites.

The question that remains is who will buy this book? I think that most neuro-radiologists will be familiar with the majority of the cases presented in this book and there is insufficient extra information on specific points that they may have. It would be an excellent book for radiologists in training prior to final radiology examinations and would be a very useful adjunct to other junior staff training in clinical neurosciences. However, I think that the people who would benefit most from this book are non-neurology trained radiologists working in an MR department with a reasonable neuro- logical workload. Similarly this will be good reading for MR radiographers and as such many MR departments will make space on their bookshelves for this text.

PAUL GRIFFITHS


Neurology is quite likely to suffer as a result of the rigid Calmanised training schedules about to be imposed on the British hospital ser- vice. It will be difficult, if not impossible, for neurologists in training to experience, at reg- istrar grade, decision making responsibility for non-neurological patients. This will be to the detriment of their rounded training since an important part of many consultant neu- rologists work entails expertise at the borderzone of neurology and general medicine. Furthermore patients with nice neurological diseases have a habit of being ill in a general medical way as well (what is the commonest cause of hypoxia in a patient with Guillain-Barré syndrome?). Even though the concept of general physicians with an interest in neu- rology is justifiably dead, excepting a few dying embers of enthusiasm in our Royal College, confidence in the management of the common general medical illnesses will remain an important component of a neuro- logist's competence. The neurology in general medical (and surgical) patients is the other side of this coin and here the neurolo- gist has to be able to help his colleagues in other specialties when their patients' ner- vous system needs attention (or even proper examination).

I read this second edition of Aminoff's already popular book for a while to answer various questions asked by my physician colleagues. Thus I found the sec- tion on "Complications in Critically Ill" a great help when the ITU team asked me to talk about a patient with multiple-tube syndrome whose limbs were wasting. However, my patient with Anti-Hu syndrome needed more work outside this book since he was referred by a general physician, not with a subacute sensory neu- ropeathy but with a motor neuropathy, not described here, but actually well recorded in patients with anti-Hu and small cell carcinoma (which we then had to twist the radiologist's arm to find). However, advising physicians of the prognosis of their patients after cardiac arrest has a dodder after chapter 9. A colleague with a patient whose hyperthyroidism presented with a hemiparesis could be supplied with a refer- ence from chapter 11. I would talk almost intelligently to our chest physician (an expert in the breathing problems in neuro- logical patients) after reading "Breathing and the Nervous System". I would have found the chapter on "Neurological Complications of Thermal and Electrical Burns" useful several years ago when a stu- dent developed a moderately severe delayed spinal cord syndrome after shocks from a railway's electrified overhead cable. The changing face of neurology is demonstrated in the extensive review of infectious diseases (nine chapters in all) where dear old neurosyphilis share half a chapter with its spirochaetal relative Lyme disease but where regrettably leptomiosis is not considered common enough in the USA to be included. Of course, of course, the modern neurological mimics HIV gets a chapter to its self, as does its cousin HTLV-1. As one would expect from a book based in North America, chapter 31 on the neurological features of drug abuse is thorough enough (it is not for me to answer the neurosurgical senior registrar's question about cocaine abuse and subarachnoid haemorrhage).

In short, because there are too many jews of knowledge here to list correctly, "Aminoff", already a staple help-mate for neurological registrars (sorry, Unified Training Grade-ars), is bigger and better than before. It should be on the shelves of all medical libraries in the world whilst UK consultants, especially those recently appointed to posts involving a substantial general hospital interface, should dip into their pockets and order their Voltaire (although at 999 pages it is too bulky for the glove compartment).

CHRIS ALLEN


Research into the neurobiolgy of schizo- phrenia is in the ascendant. There is now a wealth of evidence that this "functional" psychosis has a substantial biological com- ponent which is increasingly susceptible to elucidation by neurobiological approaches. The main aims of this book are to bring the reader up to date with progress in the field and to link research findings with implica- tions for clinical practice. In the main it is successful although at this stage the emphasis is much more on the research itself than its applications.

The heart of the book is the section which reviews progress in brain imaging, psychopharmacology, and neuropathology. Brain imaging, in particular, is making rapid strides. The major findings from MRI and PET/SPECT scan studies are summarised, and a vision of future possibilities is offered through functional MRI and MRS. The psychopharmacology chapters focus on aspects of dopamine system activity and the renewed interest in serotonin; implications for clinical practice are considered via the development of atypical neuroleptics. One chapter is devoted to bringing together the findings from brain imaging, psychopharma- cology and neuropathology. Unfortunately it re-covers the ground from the separate chapters on these topics as much as it attempts to integrate them, but the impor- tant message is that findings in each field are now solid and comparable enough for each to benefit from discoveries in the others. Amidst all this talk of integration the chapter on genetics stands somewhat out on a limb at present, a powerful neighbour hunting for susceptibility loci in order to achieve its potential.

A theme which recurs in a number of chapters is the value of judicious focusing on symptom groups within schizophrenia in the search of studying vulnerability markers for the disease. The positive/negative dichotomy continues to dominate the subclassification of schizophrenia. In particular, certain abnormalities are predominantly associated with negative symptoms—for example, hypofrontality in studies of functional brain imaging. This approach is taken a step fur- ther when positive, negative and disorganisa- tion symptom dimensions are considered. A lucid account is given of the relationship between these and neuropsychological and functional imaging findings. Vulnerability markers are reviewed in the areas of neuro- physiology and attention processing, and prospects for using these in animal models of psychosis are considered. The final section investigates the relevance of neuro- biological findings in schizophrenia for childhood-onset psychoses.

Overall this book provides a competent review of the current state of neurobiological research in schizophrenia and would be a useful addition to library shelves.

ALASTAIR CARDNO

Book reviews

SHORT NOTICES

Readers may be interested in:

