Book reviews

Lasers in Neurosurgery. Edited by Jon H Robertson, W Craig Clark. (Pp 182; £75.00.) Dordrecht: Martinus Nijhoff, 1988.

This book is published as one of a series entitled *Foundations of Neurological Surgery* and is a clearly produced volume. The early sections on laser types and laser physics read easily and are well illustrated, but the one which follows on the interaction of laser light with neural tissue is a little less clear but quite comprehensive. The section on benign supratentorial tumours is more of a mature appraisal of the approaches to these problems rather than a detailed account of the neurosurgical laser, but the well established technique of applying defocused laser to the skull base after meningioma excision, the high power density laser vapourisation of tumours, and the sharp focused dissection from the falx and sagittal sinus, are included.

Salcman's account of the laser surgery of glial tumours is comprehensive in the technical aspects, the different tumour types treated and in the comparison of laser with non laser techniques by operative results and follow up.

There is a good account of the value of the laser for glomus jugulare tumours and also in the excision of craniopharyngiomas, both of which the reviewer can confirm.

The paediatric chapter overlaps that on the treatment of congenital abnormalities, the latter containing the better account of laser resection of lipomyelomeningoceles, but the former gives an excellent description of the laser excision of low brainstem gliomas in children.

Patrick J Kelly's short account of stereotactic laser resection of deep-seated cerebral gliomas underestimates the importance of this method which he has pioneered, and the section on intraspinal tumours which follows it gives insufficient detail on microsurgical laser technique and results in the treatment of intramedullary tumours. There is a short section on making DREZ lesions and myelotomy with the surgical laser in the treatment of pain.

The book ends with a good physical explanation and illustrated account of the Nd:YAG in the treatment of AVMs, and a brief survey of laser in microsurgical anastomosis of small vessels and nerves in experimental studies. For the first volume of the *Foundations of Neurological Surgery* series this sets quite a high level.

G BROCKLEHURST

Brain Iron: Neurochemical and Behavioural Aspects. (*Topics in Neurochemistry and Neuropharmacology Vol 2*). Edited by Moussa B H Youdim. (Pp 148; £30.00.) Basingstoke: Taylor and Francis, 1988.

Every metal has its day and now it appears to be the turn of iron. Considering the dramatic effects shown by iron overload in haemochromatosis or indeed by iron deficiency on peripheral organs, it is perhaps surprising that iron in brain has received relatively little attention. The occurrence of iron deposits in brain in Hallervorden-Spatz syndrome should have signalled the important role it might play. More recently there have been the conflicting suggestions that iron levels are increased in substantia nigra in Parkinson's disease and that iron preparations may be beneficial in the treatment of the illness. So, the publication of a volume on the role of iron in brain is a well timed event.

The book opens with a discourse by Dr Hill on the distribution of iron in brain. This emphasises the uneven levels of iron found in different brain regions, and its dependence on the age of animals or man and the sex difference in iron accumulation. The author also seems drawn to a relationship between iron distribution in brain and that of GABA. Most interestingly the author dwells on the techniques available for locating iron in brain at the cellular and subcellular level and the problems of visualising soluble forms of such as ferritin. However, the text dwells on the authors own techniques and it would have been appropriate to draw comparisons with the other methods available. Coverage is given to the cellular location of ferritin, transferritin and transferritin receptors but there is little mention of other iron binding molecules. With the evidence for iron deposition in a variety of neurodegenerative diseases some coverage of haemosiderin would have been welcome.

Iron dependent enzymes play a major role in neurotransmitter synthesis and energy metabolism. So appropriately Drs Wigglesworth and Baum have contributed a detailed summary of this area. The coverage given to different enzymes was uneven perhaps reflecting the available data but in some instances no role for iron in the functioning of a metalloenzyme was suggested. However, the chapter emphasises how alterations in iron metabolism might severely disrupt brain function.

The following contribution came as a surprise in a volume dedicated to iron in brain. Dr Sourkes reviews the role of trace metals in neurochemistry. Excellent coverage is given to the function of cobalt,

copper, zinc and manganese but not iron. Indeed, Dr Sourkes makes it clear from the start that "the neurochemistry of iron is the subject of the rest of this volume and needs no elaboration here". No criticism of Dr Sourkes' contribution should be taken but perhaps the editor should be made the scapegoat for this interruption in the discourse on iron.

Next comes the editor himself, Professor Moussa Youdim, with his colleague Dr Yehuda, dealing with brain iron deficiency. They produce evidence which clearly demonstrates the role of iron in dopamine mediated motor behaviour, dopamine receptors and in cognitive function. They postulate an important role for iron in the production of tardive dyskinesia by neuroleptic drugs involving effects on both brain dopamine and GABA systems. Only further study will determine whether this idea is correct or not.

Lastly, Drs Pollit and Kim raise the important issue of whether iron deficiency in children affects learning and achievement. From a comprehensive examination of various studies they conclude that iron deficiency anaemia interferes with brain function among pre-school and school-age children. If confirmed this conclusion has important implications for health education.

The volume provides an interesting insight into the role iron might play in brain function. My overall impression was that there is a long way to go to convince everybody that iron is involved in specific disease areas. I also felt that a larger volume giving more coverage to some of the basic science issues of iron handling by brain would have been appropriate and would have given less emphasis to the more speculative areas of iron's role in specific disease areas. However, I enjoyed reading the volume which at least partially fills a gap which has existed in the literature for too long.

P JENNER

Giant Intracranial Aneurysms. Therapeutic approaches. By Y Keravel, M Sindou. (Pp 180; DM 248.) Berlin: Springer, 1988.

This slim volume is an English translation of a monograph published by the French-speaking neurosurgical society in 1984, which has been updated. It is a 17 author monograph, which covers the full spectrum of pathology, presentation, investigation and management of giant intracranial