



Figure Top: Nineteen days after the onset of the left hypoglossal nerve palsy, the tongue at rest curves to the right side, and its left half appears larger. But the left-sided palsy is evident on protrusion. Bottom: Four weeks later, the appearance and movements are almost normal.

recovery in a patient with infectious mononucleosis. But our patient did not have fever, lymphadenopathy nor other clinical features of general inflammation. Serum antibody titres against EB virus showed no significant alteration, though we did not examine them during the acute stage. In migraine and cluster headache, Horner's syndrome and cranial nerve palsy may be seen,⁴ but hypoglossal nerve palsy has not been reported. Moreover, our patient had no severe headaches before and after the present episode.

The larger appearance of the paralysed left side at rest on initial observation deserves some comment. According to Gowers,⁷ in paralysis of one hypoglossal nerve the tongue at rest is in its normal position in the mouth, but its root is higher on the paralysed than on the unparalysed side, in consequence of the loss of the tonic contraction of the posterior fibres of the hyoglossus. Adams and Victor⁶ described how the tongue curves slightly to the healthy side as it lies in the mouth. This may be due to paralysis of the superior and inferior longitudinal muscles which normally shorten the tongue. In addition, paralysis of other intrinsic muscles, especially transverse and vertical lingual muscles, may cause enlargement of the tongue. These may be reasons why, in the early stage of unilateral hypoglossal nerve palsy, the paralysed side appears larger than the intact side.

Although we could not establish the cause of our patient's disease we consider that isolated hypoglossal nerve palsy with Horner's syndrome is worth noting.

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MATTERS ARISING

Whiplash injury

Several of the conclusions of Dr Pearce about whiplash injury deserve comment.¹ His first conclusion that there is no adequate published control group occurring outside the context of a compensation claim is incorrect.² Hohl, a private orthopaedist, found that 44 out of a total of 146 patients reviewed five years after whiplash injuries had no possible recourse to litigation, because either they were at fault or there was no collectable compensation: 50% of this group were still symptomatic at this time.

We disagree with Dr Pearce's conclusion

that there is a striking resemblance to the natural history of whiplash and other "strains" elsewhere. Undoubtedly if one takes a consecutive group of patients with whiplash one will find that a large number will recover quickly. This suggests that many of these patients have had a very minor injury. Notwithstanding this there are a considerable number of whiplash patients who continue to have persistent symptoms, not only for longer periods than it should take for ligamentous strains to recover (approximately 12 weeks) but for periods long after compensation cases have been settled.

Gotten³ found 12% of patients two years after settlement still had severe symptoms, McNab⁴ found 45% of patients still had some neck symptoms two years after settlement, while Hohl² found 43% of patients had some neck pain five years after their injuries were sustained. These reports suggest that the pathology involved is different from a simple soft tissue injury. While the persistence of symptoms in some whiplash patients could be related to a slower capacity to regenerate damaged tissues, the return to normal painless function for associated ankle or wrist soft tissue damage within the expected time period suggests that different pathomechanisms are involved.⁴

Using brave volunteers, Severy has shown that in a 10 mph rear-end collision a force of 9 g is generated at the neck and that this is considerably greater over the frontal cortex (23 g).⁵ Damage in these areas would not lead to isolated defects as paralysis of a muscle group but rather to changes in mood and cognitive ability.

Yarnell⁶ has recently described poor performance in neurophysiological evaluations of cognitive function, in a group of patients with major debility after a minor head injury associated with a whiplash injury. It is likely that less severe forms of dysfunction are evident in some patients with persisting symptoms. The cervical lesion that causes local persistent symptoms may not be a soft tissue injury at all, notwithstanding the fact that soft tissue injuries occur at the same time. Rare cases of bilateral sympathetic dysfunction⁷ post-whiplash suggest, as initially proposed by Barre and Lieou,⁸ that disorganised functioning of the cervical sympathetic system is important in facilitating the persistence of neck pain in some patients.

A study in which acute whiplash cases are analysed by MRI may help resolve what type of neck soft tissue injuries occur and whether or not they are prognostically important. We have recently reported a case of post-whiplash dystonia well controlled by TENS⁹ who despite marked limitation of neck movement three weeks after the injury had normal MRI of his neck and brain suggesting that the pathology may be very subtle.

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Pearce replies:

I am grateful for the interest and comments of Drs Foley Nolan and O'Connor on this contentious topic. They raise several points: 1) Hohl's series can not be taken as a control group since they were based on a "private orthopaedist's" practice and the assessment was after settlement of compensation claims.

The difference from Gotten's series (45% versus 12% symptomatic two years after compensation) in itself suggests variation in: patient material, motivation for recovery, or a different approach by doctor to complainant. Dissatisfaction with the outcome in court may be germane.

2) Nolan and O'Connor repeatedly refer to soft tissue damage and then confusedly say "The cervical lesion that causes local persistent symptoms may not be a soft tissue injury at all, notwithstanding the fact that soft tissue injuries occur at the same time." *Res ipse loquitur!*

3) Because of a force detected experimentally over the frontal cortex with rear end impacts (which comprise only 40 to 50% of whiplash injuries) they place emphasis on change in mood and cognitive ability; then separately, on "rare cases of bilateral sympathetic dysfunction". Alas, there is no evidence of even the most subtle structural lesions in either situation in most whiplash injuries.

4) They rightly look to MRI to demonstrate what type of soft tissue injury occurs and whether they are prognostically important. In my paper I referred to 19 patients with moderate or severe persisting symptoms examined by MRI; the results were normal in every case.

Like many others Nolan and O'Connor indulge in endless speculation, trying (so far in vain) to show subtle organic mechanisms to explain symptoms which are otherwise inexplicable in organic terms. It is mystifying that they choose to ignore one such mechanism: the fact that some people from all classes consciously seek to enhance the financial and other rewards deriving from injury. A few trips, incognito, on the back of a Dublin bus or in cafés frequented by the underoccupied might afford them a hearing of what makes certain folks tick—and how.

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BOOK REVIEWS

Atlas of the Cerebral Sulci. By M ONO, S KUBIK, C D ABERNATHEY (Pp 218 illustrated; Price: DM 298.00). Stuttgart: Georg Thieme Verlag, 1990. ISBN 3-13-732101-8

There have been major advances in the knowledge of the anatomy of the brain over the past 40 years but this book is the first comprehensive study covering all aspects of the cerebral sulci for many years. This work by two neurosurgeons and a Professor of Anatomy, deals in great detail with the primary, secondary and tertiary sulcal divisions. The book is beautifully produced and illustrated. In his foreword, Dr Yasargil rightly draws attention to the increasing precision of surgical techniques and the necessity for improving our knowledge of micro-anatomy. He concludes that the first step is the necessity of understanding the anatomy of the cortical sulci towards describing and categorising the highly varied structural patterns of the cortical surface.

Although dealing mainly with the descriptions of the cortical sulci, considerable attention is given to the analysis of the variations of the secondary and tertiary sulci. The authors give many of their results in percentage figures but do not state the number of specimens studied. Similarly, the marked variation of the measurements of the sulcal and intersulcal distances makes one question their value in relating them to micro-surgical techniques.

This book will be of value to Neurosurgeons and to Students but one feels that a greater understanding of these structures would have been achieved if there had been some reference to the subcortical anatomy and function.

M GOODING

Trigeminal Neuralgia. Edited by R L ROVIT, R MURALI, and P J JANNETTA. (Pp 288; Price £70.00). London: Williams & Wilkins Ltd, 1990. ISBN 0-683-07393-1

This is an excellent book giving a compre-

hensive account of the always distressing and consistently interesting problem of trigeminal neuralgia. The meat of the book is in the middle chapters. These give detailed descriptions of the more commonly used methods of medical and surgical treatment of the condition. Peripheral nerve injections, avulsion, radio-frequency coagulation, percutaneous microcompression, glycerol rhizotomy and microvascular decompressive techniques are covered and the advantages and disadvantages of each are clearly outlined. The recently appointed neurosurgeon should be able to undertake the various techniques with minimal hazard, and neurosurgeons in training will find it invaluable.

Perhaps the most interesting chapters for the more experienced neurosurgeons come at the beginning and the end of the book. The analysis of the literature by Dr Sweet discusses in some depth possible mechanisms of causation and pathophysiology. The chapter on Historical perspectives by Dr Wilkins is perhaps the most interesting. It discusses the range and nature of attempts at treatment, often quite bizarre, undertaken in the past and will make salutary reading for anyone who considers that trigeminal neuralgia and its treatment is no longer controversial. The book is well produced and the illustrations are clear and usually relevant, but at £70.00 the price is on the expensive side for the surgeon in training, but it will find a welcome place in most neurosurgical libraries.

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SHORT NOTICES

Principles and Practice of Surgery 2nd ed. Edited by A P M FORREST, D C CARTER, I B MACLEOD. (Pp 729 illustrated; Price: £24.95.) Edinburgh: Churchill Livingstone, 1990. ISBN 443 03909 7

If a general surgical textbook is not the normal reading fodder of a neurologist, this beautifully produced illustrated paperback

volume will be ideal for their medical children. Stemming from the distinguished Edinburgh School of Surgery and now in its second edition, the contributors hail mainly from Edinburgh and cover both general and specialised surgical topics at a level suitable for undergraduates.

A DSM-III-R Casebook of Treatment Selection. By S PERRY, A FRANCES, J CLARKIN. (Pp 395; Price: \$83.50.) New York: Raven Press, 1990. ISBN 0 87630 572 9.

This renewed issue lists 53 detailed case histories followed by discussion of the clinical process and evaluations of a variety of treatments available. The authors discuss their choices and then elaborate the outcome of treatment in each case. The widening spectrum of available treatments for psychiatric disorders makes this particular type of presentation especially helpful. Short lists of suggestive reading enhance the production.

Handbook of Ocular Drug Therapy and Ocular Side Effects of Systemic Drugs. By D PAVAN-LANGSTON and EC DUNKEL. (Pp 464; Price: Not stated). Boston, Mass: Little, Brown & Co, 1990. ISBN 0 316 69545 9.

Peripheral Neuropathy in Childhood (The International Review of Child Neurology). By RA OUVRIER, JG MCLEOD AND JD POLLARD. (Pp 242; Price: \$101.00). New York, Raven Press, 1990. ISBN 0-88167-690-X.

An up to date short survey on neuropathy in childhood which overlaps considerably with syndromes of the adult. It is well produced and illustrated, replete with modern references. A very useful concise handbook for paediatric and adult neurologists.

Neurotransmitter and Dementia Journal of Neural Transmission. (1990) Supplement 30. Edited by C G GOTTFRIES AND S NAKAMURA (Pp 81; Price: DM 70, Subscribers DM 63) 1990. Wien, Springer-Verlag. ISBN 3 211 82190 2