The naming of parts

Many deplore the journalistic trend to label well recognised conditions by acronyms, or by recently invented names—commonly to no useful purpose. Thus neurologists may not welcome yet another two names, recorded in past literature but not in general currency.

Some years ago, Greek κορµος = bent; κορµιος = trunk of a tree: but, like a few others, Umapathi et al apply it to signify a bent spine. Camptocormia was first an illness occurring among soldiers in World Wars I and II, and was regarded as a sign of hysteria. Ankylosing spondylitis is a more frequent spine syndrome. Camptocormia by Souques in 1915, referred to the original use of the term camp-

καµπυλ, Greek = bent; 

Hence the title “Head drop and camptocormia, the spectrum of bent-spine syndromes.”

The article by Hawkes and others, Bousy and Lhermitte reported two subsequent cases. An infantryman was thrown into the air by the bursting of a shell, rendered unconscious and recovered experiencing violent pains in the back. He remained stooped to the right. His bent back was corrected by the application of plaster corsets. The other reported case was that of a chasseur who was buried in an explosion, knocked unconscious, and experienced acute respiratory distress, and subsequent mutism and camptocormia. One séance of electrical treatment corrected the improper attitude of the trunk, though he did continue to experience “a few persistent lumbar pains”.

It would be difficult to doubt the probability that psychological factors influenced these men’s recuperation. To describe these soldiers as hysterical, though this was the terminology used during this period, or indeed that they suffered functional back bend, is probably unfair. They may well have suffered acute traumatic spinal injury and reactive muscle spasm (and contractures). Persistent stooping in shallow trenches, in appalling conditions of deprivation and danger, may have been contributing factors weakening the tone of paraspinal muscles. However, these case reports suggest that the traumatic injury alone may be sufficient explanation for the bent spine. The management of camptocormia in the first world war was to provide biomechanical supports, such as corsets, apparently with good results. The psychological therapies of “persuasive reduction” were additive rather than pivotal, and faradisation (and other tortures) used only “if necessary”.

The Sandler trial of low self esteem with confusion of identity, somatopsychic behaviour towards military authorities, and mutism were, in 1947, proposed as being an essential part of camptocormia. Umapathi’s recognised causes of camptocormia and the contributing factors however implicate organicity, as indeed do the original case reports.

Infection and multiple sclerosis

The article by Hawkes et al’s and the editorial commentary about the role of infectious agents in multiple sclerosis (MS) examined this question from a new viewpoint based on epidemiological observations. Several infectious agents, most not sexually transmitted, were reported to be associated with MS according to epidemiological data, serology in CSF and blood, or demonstration of pathogens in tissue. A relation with measles virus (MV) has been an early and most consistent finding. More recently, higher prevalence and higher titres of antibodies against human herpesvirus 6 (HHV6), but not other herpesviruses, were shown in MS patients compared to control groups, suggesting different exposure to HHV6 in MS. HHV6, like vaccine strain MV and certain wild type MV, uses the membrane cofactor protein (MCP; CD46) as a receptor for entry into cells. This suggests a possible involvement of CD46 in MS.

The possibility of a particular isoform of CD46 predisposing MS patients to infection is unlikely because all isoforms have similar affinity to MV. Increased levels of soluble CD46 have been reported in the serum and cerebrospinal fluid of MS patients, more in those who have HHV6 DNA. One interpretation of these findings involved increased activity of the complement system in MS. However, experimental studies show no influence of inflammatory cytokines on CD46 expression and do not support inflammation

References


CORRESPONDENCE

The article by Umapathi et al in this journal referred to the original use of the term camptocormia by Souques in 1915, though functional bent back was first described by Brodie in 1837. Mille Rosanoff-Saloff supported Souques’ case study with a photographic record of this soldier’s bent back and his recovery. According to the English translation abstract in Southard’s fine collection of shell shock cases, this soldier was wounded five months previously by a bullet that entered along the auxiliary border of the scapula and emerged near the spine. “He spat blood for several days ... and when he got up his trunk and thighs were found to be in a state of moderate flexion upon the pelvis, the trunk being bent almost at a right angle.” He was able to bend his trunk still further forward than “its habitually contracted position” and it was evident that there was contraction of the muscles of the abdominal wall and of the iliopsosas. “No motor, sensory, reflex, trophic, vasomotor, electrical, visceral or X-ray disorders could be found.” The application of plaster corsets “cured” this man’s disability within six weeks.

The poolus spoke of this condition as cintrage (arching), suggesting that it was not an uncommon affliction of the French soldier. Seemingly only a case of a French neurologists, Bousy and Lhermitte reported two subsequent cases. An infantryman was thrown into the air by the bursting of a shell, rendered unconscious and recovered experiencing violent pains in the back. He remained stooped to the right. His bent back was corrected by the application of plaster corsets. The other reported case was that of a chasseur who was buried in an explosion, knocked unconscious, and experienced acute respiratory distress, and subsequent mutism and camptocormia. One séance of electrical treatment corrected the improper attitude of the trunk, though he did continue to experience “a few persistent lumbar pains”.

However, we would like to disagree with Dr Pearce labelling the spinal deformity seen in ankylosing spondylitis as camptocormia. In arthritic conditions and diseases that affect bone, the spinal deformity is fixed. In the bent-spine disorders referred to in the paper, the deformity may reduce considerably and even disappear with change in position, for example when supine. We would therefore prefer to reserve the phrases head drop (used interchangeably with head ptosis) and camptocormia to neurological conditions that affect the strength or tone of the muscles controlling spinal posture.

As aficionados of medical history, we very much enjoy Dr A D Macleod’s letter. We agree that organic factors might have contributed to the camptocormia in soldiers believed to have been suffering from hysteria. It would have not been unexpected for patients, like the man described by Southard with a bullet wound near the spine, to have developed spasm or even denervation of thoracic paraspinal muscles.

T Umapathi

Department of Neurology, National Neuroscience Institute, 11 Jalan Tan Tock Seng, 308433 Singapore, tumapathi@yahoo.com

References


Infection and multiple sclerosis

The article by Hawkes et al and the editorial commentary about the role of infectious agents in multiple sclerosis (MS) examined this question from a new viewpoint based on epidemiological observations. Several infectious agents, most not sexually transmitted, were reported to be associated with MS according to epidemiological data, serology in CSF and blood, or demonstration of pathogens in tissue. A relation with measles virus (MV) has been an early and most consistent finding. More recently, higher prevalence and higher titres of antibodies against human herpesvirus 6 (HHV6), but not other herpesviruses, were shown in MS patients compared to control groups, suggesting different exposure to HHV6 in MS. HHV6, like vaccine strain MV and certain wild type MV, uses the membrane cofactor protein (MCP; CD46) as a receptor for entry into cells. This suggests a possible involvement of CD46 in MS.

The possibility of a particular isoform of CD46 predisposing MS patients to infection is unlikely because all isoforms have similar affinity to MV. Increased levels of soluble CD46 have been reported in the serum and cerebrospinal fluid of MS patients, more in those who have HHV6 DNA. One interpretation of these findings involved increased activity of the complement system in MS. However, experimental studies show no influence of inflammatory cytokines on CD46 expression and do not support inflammation.
as a cause of increased CD4+ T-cell count. The question of whether HHV6 and MV infections in young adults might produce increased antibody levels in young adults through prolonged infection with, or reactivation of, each other. These suggest increased antibodies against these two viruses in MS may be interrelated.

The question remains whether a cause-effect relation exists between infectious organisms and MS, or whether viruses are just a consequence of the activation of the inflammatory-immune sequence or increased susceptibility of MS patients to infection. Studies of CD4 and other viral receptors seem warranted in MS.

**References**


2. Ed: The journal regrets any distress caused to patients with MS as a result of the widespread publicity this article has received. However, we wish to emphasise that the article was subject to the usual peer review process.

**BOOK REVIEWS**

**Delirium in old age**


Delirium is an extremely important condition for a number of reasons. It is very distressing and frightening for those who experience the symptoms, and descriptions of the effects on the brain as a result of high fever have been well described. There is a high mortality associated with the development of delirium, and it is often associated with behavioural disturbances that can be troublesome for carers and attendants. Initially, it presents a unique opportunity to look at the interface between psychiatric symptoms caused by organic disease and functional disorders.

Twelve years ago, the same publishers and two of the current editors produced the first edition on delirium. It was a relatively thin book but set the standards that the current edition continue. Delirium is certainly a niche market, and there appear to be no direct competitors, although textbooks on old age psychiatry usually contain chapters and notes on delirium. The new edition is greatly expanded and very much up to date.

Every aspect of delirium is included, from the history and conceptual basis of the disorder through to epidemiology, neurophysiology, clinical assessment, management, prevention, and, refreshingly, the role of family caregivers and nurses in managing the disease. The core tenet of the book is that delirium is a disturbance that is relatively poorly recognized (particularly the hypo-alarm type) by the general clinical professions, it is relatively easy to identify people at risk of developing delirium, and that there is a real possibility of a reasonable preventive strategy for the disorder. Twelve authors have contributed and, as delirium is relatively under-researched, this probably represents a significant proportion of the leading researchers in the field internationally. There are particularly interesting sections on the conceptual basis of the disorder and how it, and its component symptoms, are defined, methods of assessment of delirium are covered comprehensively, a summary of how evidence-based management plans can be developed, and the prospects of prevention of delirium are given an adequate airing.

An interesting spin, which I discovered by accident, is that on the Oxford University Press website (www.oup.co.uk), one can see online updates of each individual chapter. Those present when this author last visited the website (December 2002) consisted of notes that had been done from when the manuscript had been submitted to publication. It may be that reviews of the book might also appear online—this one will.

The book is a landmark in the literature on delirium, is a text of very high quality, and anyone seriously involved in the clinical management of patients with delirium or research on the subject would do well to read this book.

A Burns

**Neurophysiology in neurosurgery. A modern intraoperative approach**


This book comprises 17 chapters contributed by 24 authors. It has clearly benefited from most of the chapters being written in a more or less homogenous style and formed into seven parts mainly based on surgical procedures. Motor evoked potentials/neurophysiological base; intraoperative neurophysiology (ION) of the spinal (spinal cord monitoring); ION of peripheral nerves, nerve roots and plexuses; ION of cranial nerve and brainstem; ION of supratentorial procedures; ION during stereotactic neurosurgery for movement disorders; and ION and anaesthesia management. Most of the chapters cover the background of methodological description of the surgical procedure, and the related neurophysiological procedure, personal experience, and case reports, which gives a balanced theoretical and practical view on the topic of each chapter. One of the compulsory approaches taken in this book will ensure it has a wide range of readers across “neurosurgery, neurology, orthopaedic surgery, neurophysiology, anesthesiology, interventional radiology, and biomedical engineering”.

Chronic deep brain stimulation or neuro-modulation has extended the role of clinical neurophysiology beyond its traditional diagnostic role. This new field is touched upon briefly in the part on ION during stereotactic neurosurgery. An interesting feature of this book is that it is accompanied by a CD that certainly enhances its value. Cross references are given at the end of the corresponding chapter rather than in the list of contents in the book, and at the front page of the display. In conclusion, it is an authoritative review of intraoperative neurophysiology much weighted on the motor system for a wide range of surgical procedures. Perhaps, in its present form, those hoping for a more systematically informed discussion of intraoperative neurophysiology of the sensory system may feel slightly disappointed.

X Liu, T Z Aziz
Clinical neurophysiology of the vestibular system, 3rd edition


The first edition of Clinical neurophysiology of the vestibular system, published in 1979, had a significance beyond its content: it affirmed that neurology had a stake in the vestibular system. Here was a neurologist (Baloh) writing with an otolaryngologist (Honrubia) about vestibular function, endomyograms, and above all the vestibulo-ocular reflex—the “VOR.” The VOR is no ordinary reflex; one can measure accurately both its input and its output and come up with a transfer function for gain—a new concept then for neurology. We have learnt a lot more about measurement of vestibular function and about disorders of the vestibular system since 1979. The 2nd edition, published in 1990, and now the third edition, incorporates these advances.

And what a terrific book it still is: based on concepts, packed with facts, lucidly written, and rigorously referenced. Its structure is logical and its language is clear, so that it is not only easy to search and browse but a pleasure to read from cover to cover. And it is comprehensive—no vestibular stone is left unturned.

There are four main parts, dealing in turn with: the structure and function of the vestibular system (four chapters); the clinical and laboratory evaluation of the dizzy patient (four chapters); and the treatment of vertigo and vestibular loss (two, yes only two, chapters—but then that’s neurology for you).

It’s impossible to single out any one chapter, they are all outstanding. For example, I particularly liked the new material in chapter one on the phylogeny of the vestibular system. Now one would have to admit that familiarity with the otoctyst of the sea anemone is not a lot of use in the consulting room, but this section is so clearly written and matter so interestingly explained that one happily dispenses with such utilitarian demands.

The great strength of the book and what has made it such a classic, is that although it is based on physiology, full comprehension of physiology is not a prerequisite for retrieving useful information from the disease based chapters. Although the structure is there, one can put this aside and simply delve. The chapters on the three most common vestibular diseases, benign positional vertigo, migraine, and Meniere’s diseases, are absolute gems.

This volume would be an extremely useful addition to the bookshelf of anybody with an active interest in the biochemical and pathological processes that underlie some of the more common neurological diseases. In the past the role of proteolysis in these disorders has been largely neglected because it was assumed that it represented a general non-specific metabolic process. In terms of attracting research interest the field also benefited from the confusion in the literature concerning the naming of these enzymes and the fact that the same enzyme might have many different names. However, as the editors point out in their preface, this is no longer the case and they have gone to the trouble of bringing together an impressive array of current research on the involvement of proteases in a wide variety of disorders. From what individually might have been regarded as rather disparate studies, one can now start to see common themes not least of which is the potential therapeutic value of targeting specific proteases and the development of specific inhibitors.

If, like me, you don’t have specialist knowledge of this area I would recommend going straight to the last chapter on the mammalian proteasine genes. Here you will find a clearly laid out summary of the classification and characteristics of the four main groups of proteases (serine, cysteine, aspartic, and metallo-proteasines). I also found the chapter on the ubiquitin/proteosome system and the normal physiological breakdown of proteins particularly informative. Having read these two chapters you then have a wide choice of disorders and proteases to choose from. Perhaps the most widely discussed is Alzheimer’s disease, undoubtedly because of the huge advances that have been made in the understanding of the biochemical processes underlying this disease over the past 15 years. Papain-like cysteine proteases (cathepsins), caspases, calpains, and a novel metalloendoproteidase (EC 3.4.24.15) all appear to have some role in the pathology of Alzheimer’s disease and may, therefore, be potential targets for drug development. There is also a group of Alzheimer’s disease specific proteases that affect the processing of the amyloid precursor protein (α, β, and γ secretase) and presenilin (presenilinases). Both of these proteins are central to the development of pathology and so these enzymes in particular are key targets for current drug company research.

Apart from the interest in Alzheimer’s disease, there are other chapters covering the role of matrix metalloproteinases and calpain in the demyelination of multiple sclerosis and the key role of calpain in the pathology of traumatic brain and spinal cord injury. Further chapters describe the development of pathology and so these enzymes in particular are key targets for current drug company research.
Infection and multiple sclerosis

B Anlar

J Neurol Neurosurg Psychiatry 2003 74: 692-693
doi: 10.1136/jnnp.74.5.692-b

Updated information and services can be found at:
http://jnnp.bmj.com/content/74/5/692.3

These include:

References

This article cites 5 articles, 3 of which you can access for free at:
http://jnnp.bmj.com/content/74/5/692.3#BIBL

Email alerting service

Receive free email alerts when new articles cite this article. Sign up in the box at the top right corner of the online article.

Notes

To request permissions go to:
http://group.bmj.com/group/rights-licensing/permissions

To order reprints go to:
http://journals.bmj.com/cgi/reprintform

To subscribe to BMJ go to:
http://group.bmj.com/subscribe/