

Book of the month

Falls in Older People

'Simple fall' is a forbidden expression on my ward rounds. Falls are common causes of admission of old patients; they are usually complex. The possible causes are legion and important contributory factors are often overlooked.

A new work, *Falls in Older People* by Lord, Sherrington and Menz¹, corrects many misconceptions. Falls are not a non-specific accompaniment of ageing. They are poorly correlated with 'dizziness'. Patients may be convinced that they did not lose consciousness when falling, but people with syncope may have retrograde amnesia. The presence of loose rugs in the home is not a predictor of falls: the homes of fallers are no more hazardous than those of non-fallers. Well-meaning therapists may tack down carpets, remove loose mats and relocate furniture. These alterations can annoy the older person (who later may reorder her furnishings in the way she prefers them). The finding that making such apparently sensible modifications to the house causes a reduction in falls *outside* the house is counter-intuitive. Another surprise: there is no direct link between drinking alcohol and falls in old age. Current drinkers have fewer falls than abstainers.

Falls do not occur at random—there is no Poisson distribution. One-third of people over 65 will fall at least once a year. Most falls occur on the flat; falls on the stairs or in the bathroom are relatively rare. Old women tend to fall in the house, old men in the garden. In 'care homes', many falls occur on the way to or from the toilet. Only one in a hundred falls results in a hip fracture, but one-fifth cause serious injury. Of those who fall and lie on the floor for hours, half will be dead within six months. Lord and his co-authors carefully analyse the published work on risk factors and prevention. The risk of falls is doubled in dementia. There is also an increased risk with depression; we do not know why. The more drugs an elderly person takes, the greater the risk of falls: the principle of minimal medication

is often contravened. Visual impairment is an important risk factor: patients who use eye-drops for glaucoma have a three-fold increased risk of falling; those with cataract are more at risk of breaking a hip. The importance of footwear in the genesis of falls is emphasized: high heels (favoured by many old ladies) reduce stride length, alter toe propulsion and increase lumbar lordosis. Loose slippers can also be a factor in the genesis of falls.

I have nothing but praise for this monograph. The Australian authors—a physiologist, a physiotherapist and a lecturer in foot mechanics and gerontology—recognized that textbooks have dealt with falls superficially and that no-one had methodically analysed and interpreted the published work. They write elegantly and apply academic rigour to the data, highlighting the gaps and uncertainties in our knowledge and generously providing many research ideas for readers to pursue. Each chapter has a succinct summary.

There are over 1000 references, helpful illustrations and very useful tables. We learn about large-scale studies of the effectiveness of multifaceted approaches to falls. There is some evidence for the benefits of specific approaches: after a fifteen-month Tai Chi programme there was a 50% reduction in the risk of falls. The authors make a plea for clarity in the words we use: dizziness can mean many things; drop attacks are not necessarily synonymous with syncope. The list of which risk factors can be modified and which intervention strategies work should be in every geriatric ward and accident and emergency department. Who knows, it might inhibit clinicians from mentioning 'simple' falls.

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REFERENCE

- 1 *Falls in Older People: Risk Factors and Strategies for Prevention*. Stephen R Lord, Catherine Sherrington, Hylton B Menz. Cambridge: Cambridge University Press, 2000 [249 pp; ISBN 0-521-58964-9 (p/b); £29.95 (US \$49.95)]

Stroke

(British Medical Bulletin 2000, Vol. 56, No. 2)

Editor: Martin M Brown

576 pp Price £34.95/US\$57 ISBN 1-85315-457-1 (p/b)

London: RSM Press for the British Council, 2000

Stroke is a rotten disease. It is one of the commonest causes of death throughout the world and survivors are frequently

left disabled. It is also extremely heterogeneous. The conventional division into just infarction and haemorrhage is probably too simplistic. The complexity of the aetiology and of the clinical manifestations of stroke makes prevention, acute treatment and rehabilitation difficult to individualize. However, led by campaigning enthusiasts, the management of stroke has undergone considerable change. When I started as a consultant in geriatric medicine it was

regarded as quite acceptable to adopt a conservative approach to the management of acute stroke and only to intervene, even with intravenous fluids, once it was clear that the patient had survived the initial insult. That has all changed. With the increasing evidence base on the effectiveness of preventive and therapeutic interventions, coupled with a humanistic imperative, such neglect is now totally unacceptable. My own post, funded in part by the Stroke Association, was created to provide local impetus for change. UK researchers have contributed greatly to the improvements in practice. Most hospitals now have a stroke service of some sort although there are few where all stroke patients undergo their complete hospital stay within designated stroke beds.

It is with this background that Martin Brown has assembled a galaxy of medical stars of the stroke world for a *British Medical Bulletin* that offers both a summary of knowledge and a clear agenda for future work. Each chapter is extensively referenced with up-to-date citations. Medical, surgical and neuroimaging aspects of stroke are all covered. Even so, it is not comprehensive: readers who wish to learn about important aspects such as nursing and therapy, or about the experiences of patients and carers, will have to look elsewhere.

Martin Brown's contention is that stroke should be regarded as a 'brain attack'—an acute medical emergency akin to myocardial infarction. Chapters on thrombolytic treatment, neuroprotective agents (both by Kennedy Lees) and homoeostasis (Philip Bath) summarize the evidence for acute pharmacological interventions and for intensive physiological monitoring in the acute phase. The most convincing evidence comes from a meta-analysis of the results of the thrombolytic agent alteplase. This drug, not yet licensed for this indication in the UK, has been shown in clinical trials to reduce death and disability in ischaemic stroke (the number needed-to-treat is said to be as low as 10.7). There are two major drawbacks to its use. The first is the very short time window, less than 3 hours following the stroke, before the risk/benefit ratio starts to deteriorate. The second is that, to rule out cerebral haemorrhage, a computed tomographic (CT) scan of the brain needs to be done before the drug is given. There is also uncertainty that the benefits seen in highly selected groups of patients recruited from specialist centres will be observed when the drug is used on a wider scale. Lees also summarizes the evidence for neuroprotective agents that are designed to protect the ischaemic penumbra around areas of actual infarction. Results here have been universally disappointing, although he believes that further work may reveal subgroups in which these drugs are of value. The maintenance of homoeostasis in the immediate post-stroke period, with intensive monitoring in an acute stroke unit, may also be regarded as analogous to treatment in a

coronary care unit. However, as summarized by Philip Bath, there is scant evidence on how best to treat the known poor prognostic factors such as hypertension, hyperglycaemia and hyperpyrexia. If some of these acute strategies prove worthwhile, they will call for heightened public and primary-care awareness of the need for immediate action. The admissions ward, CT scanner and stroke unit will need to be in close proximity to each other—in our hospital these services are provided in different buildings and patients have to be transferred from one to another by ambulance. Immediate access to neuroimaging will also demand substantial investment. This may be the way ahead but I do not think that the case has yet been established.

What has been clearly established is that organized care systems such as those provided in stroke units improve survival and the likelihood of the patient returning to an independent life. Continued development of such models of service delivery will be given further impetus by the forthcoming National Service Framework for stroke. It is left to Shah Ebrahim, in the last chapter, to remind us that the disease costs the NHS in Britain about £2 billion a year and that there exist effective and cheap interventions such as aspirin, bendrofluazide for hypertension and smoking cessation advice. Even if new drugs for acute stroke become available, these proven cost-effective interventions must not be neglected.

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Health and the Food-chain

(British Medical Bulletin 2000, Vol. 56, No. 1)

Editors: David I Thurnham, Terry A Roberts

274 pp Price £34.95/US\$57 ISBN 1-85315-433-9 (p/b)

London: RSM Press for the British Council, 2000

The food we eat and its risk to health is now high on the national agenda. Reasons are multiple. Chief amongst them is anxiety over the real risks of BSE, together with the potential risks of genetically modified foods. Others are the outbreaks of *Escherichia coli* food poisoning and the rising prevalence of serious food allergies, particularly to nuts. Healthcare professionals face increasingly probing questions from their patients, the consumers, who have been primed by information in the press and on the Internet. Questions may concern not only these well-publicized food-related illnesses but also less common food-borne conditions such as parasitosis. The planning

committee for a *British Medical Bulletin* on Health and the Food Chain assembled contributors from a wide range of scientific backgrounds to provide answers to many of these questions. The nineteen chapters cover three principal themes—mechanisms that keep food and water ‘healthy’, diseases from foods, and economic and social issues around food hygiene.

On the theme of mechanisms to prevent food contamination or deterioration, the first chapter is an historical review of food processing over the past 100 years. It describes developments such as drying, heat processing, freezing, chilling and radiation; changes in the processing of two staples, bread and milk; and finally the health implications of these changes. Food spoilage is largely preventable through the wide range of current and future mechanisms described; but, where animal products are concerned, an important principle is to limit or eliminate bacteria at the ‘on the farm’ stage. The chapter on the microbiological safety of water again offers an historical perspective before proceeding to indicators of contamination, drinking water standards and waterborne diseases. Finally there are chapters of more specific medical interest, on vegetative microorganisms, bacterial spores, food-borne viruses, toxigenic fungi and mycotoxins, parasites, food-borne protozoa and marine toxins. Each details the organisms and the diseases, the control strategies now in place, and future challenges.

There is a natural overlap between themes because the chapters on control of food-borne infections also address the diseases acquired. Some of these will be well known to clinicians practising in Britain; however, international travel and vacations in distant and exotic locations are now commonplace and even the food on our local supermarket shelves may come from countries with less rigorous controls than ours. A series of chapters conveniently summarize for the reader the conditions, causative organisms, control mechanisms and treatment. But adverse reactions to foods do not arise only through infections; in developed countries, allergic reactions and food intolerance are far more troublesome. This matter is comprehensively addressed with clear distinctions between food allergy, food aversion and food intolerance, along with accounts of mechanisms, clinical features, diagnosis, treatment and prognosis. This chapter also describes presentations of food intolerance including reactions resulting from enzyme defects (e.g. lactase deficiency), pharmacological mechanisms (e.g. caffeine, tyramine) and specific drug–food reactions (e.g. tyramine-containing foods and monoamine oxidase inhibitors). Modifications of foods through their genes, whether we approve or not, will be part of our future. Genetically modified crops are already successfully established in large areas of the world. The relevant chapter is titled ‘Genetically modified crops:

methodology, benefits, regulation and public concerns’, clearly the main issues in the debate; but risks are tackled as well as benefits.

Amongst the social and economic issues dealt with are consumer perceptions and understanding of the risk of food, risk communication, life-style and food use and the economic impact of food-borne outbreaks and their control.

This *British Medical Bulletin* covers a wide range of topics in a manner that will amply equip the busy practitioner to counsel a concerned patient. Its broad range will make it appeal to a readership including nurses and dietitians as well as doctors. I found it a most enjoyable read.

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To Improve the Evidence of Medicine: the 18th Century British Origins of a Critical Approach

Ulrich Tröhler

147 pp Price £10

Edinburgh: Royal College of Physicians of Edinburgh, 2000

Ulrich Tröhler's thesis is that a quantitative and critical approach to medicine did not originate in Paris in the first half of the nineteenth century, as is generally believed, but was first fostered in Britain in the second half of the eighteenth century. At this time several British doctors perceived the need for adequate empirical evaluation of existing and proposed treatments. They understood that the way forward was a rejection of the traditional dependence on dogma and complex pathophysiological theories of disease and instead a reliance on comparative trials with the results expressed as numbers—something they referred to as ‘medical arithmetic’.

With its roots in a PhD written over twenty years ago the book finally brings Tröhler's valuable and fascinating research to a wide audience. It is broadly divided into three parts. In the first there is an overview of the state of British medicine in the eighteenth century and an explanation of the intellectual and structural elements which allowed the new arithmetic approach to be applied. The intellectual basis was essentially the emergence of a climate of ‘rational empiricism’, a general emphasis on observation rather than theory, and also the profusion of medical societies allowing these views to be propagated. The structural change was the increased dependence on institutionalized medical treatment in hospitals and dispensaries and in the armed forces which permitted adequate numbers of cases to be collected together to use the new methods.

The second and largest part is the exploration of contemporary health issues to illustrate Tröhler's theory. Tröhler states that this presentation is for a general readership and undoubtedly it provides both a vivid insight into the medical practice of the period and a cogent argument for a British origin for quantitative evaluation. The subjects addressed are the management of fever (the 'cancer' of the eighteenth century), surgery for bladder stones, the treatment and prevention of scurvy, digitalis in dropsy, the use of spa waters for rheumatic disorders, amputation for limb injuries in war and the control of syphilis and ophthalmia in the army. Even the very familiar, such as Lind's work in scurvy and Withering's in dropsy, are reinvigorated by Tröhler's exhaustive research.

In the third and final part the major findings are summarized. There is discussion of the type of men who invented this new medicine—often outside the mainstream, 'dissenting' in nature, and from a military or provincial background with Scottish connections. The immediate impact of 'medical arithmetic' on day-to-day practice and the ethical issues it raised about experimenting on patients are addressed. Most significantly, Tröhler draws striking parallels between the eighteenth and early nineteenth century work of the 'arithmetic observationists and experimentalists' and ongoing developments in the second half of the twentieth and early twenty-first centuries. One is repeatedly impressed by the apparent modernity of the methods used by these pioneers of evidence-based medicine.

I have no serious criticisms. The title is a direct quote from the eighteenth century but perhaps the book deserved something more inspiring. On occasion Tröhler's 'rocky Swiss English' (his own words) has evaded the editors. This is a scholarly and entertaining work. The author argues his case lucidly with a profusion of historical detail which is thoroughly referenced. The Royal College of Physicians of Edinburgh have produced it very nicely in softback format with pleasing illustrations and at a surprisingly reasonable price. I strongly recommend it to all those with an interest in the history or future of British medicine.

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The Pocketbook of Drug Eruptions and Interactions, 2nd edition

Jerome Z Litt

539 pp Price £17.50; US\$29.50 ISBN 1-85070-031-0 (p/b)

Carnforth: Parthenon

Dermatologists are all too familiar with the challenge presented by an ill patient on a medical or surgical ward whose condition is compounded by an extensive rash; is it a drug eruption and if so which of the patient's recent or current medications is at fault? The unravelling of such a puzzle is rarely assisted by the manufacturer's data sheet, which almost inevitably lists 'rash' among a long list of potential side-effects and adverse reactions. Helpful information is indeed remarkably difficult to find. In a very few instances we now know why some people react adversely to a medication and others do not; marrow suppression from azathioprine, for example, is known to be almost entirely confined to those who lack the enzyme thiopurine methyltransferase (which can be readily measured). Occasionally the pattern of eruption is distinctive, as in fixed drug eruption, or erythema multiforme. Sometimes a pattern of adverse reaction may be predicted; for example, since penicillamine can induce a pemphigus-like eruption we might expect the structurally related molecule captopril to do likewise.

Dr Litt's *Pocketbook*, containing as it does a comprehensive list of all the recognized forms of skin reaction to virtually every known prescription medication, together with a list for each drug of recognized interactions, is the result of a herculean amount of work. The mere fact that this is a second edition attests to the demand for information on the subject. Yet the introduction gives no indication of the intended readership; and, having studied the book, I feel none the wiser. There is no clue as to how in clinical practice one might assess the likelihood of one drug over another being the culprit in a suspected case of drug reaction, nor is there any discussion of mechanism or time course. Interactions, whilst exhaustively listed, again do not discuss mechanism or effect (inhibition? potentiation? cross-reaction?). The definitive book on this important subject has yet to be written.

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