

## LETTER TO THE EDITOR

- *The British Heart Journal welcomes letters commenting on papers that it has published within the past six months.*
- *All letters must be typed with double spacing and signed by all authors.*
- *No letter should be more than 600 words.*
- *No letter should contain more than six references (also typed with double spacing).*

### Estimation of the risk of death after acute myocardial infarction from systolic time intervals

SIR,—Dr B J Northover's study (1989;62:429-37) adds a critical link to the chain of evidence supporting the use of the systolic time intervals, specifically the ratio of the pre-ejection period to the left ventricular ejection time (PEP/EP), as a valuable mortality risk indicator after acute myocardial infarction. In an earlier investigation on 578 patients with acute myocardial infarction, Northover showed that the PEP/EP ratio was a potent predictor of the risk of death during the in-hospital treatment period.<sup>1</sup> In the recent study, Northover followed for 51 weeks 600 patients who had survived the first seven days after acute myocardial infarction. Again the PEP/EP ratio was a good indicator of the risk of death. The PEP/EP ratio has been shown to be an independent indicator of the risk of death in patients studied 14 months to 6 years after acute myocardial infarction,<sup>2</sup> which suggests that the PEP/EP ratio retains its prognostic potency for at least the first 6 years after acute myocardial infarction.

In the recent Northover Study multivariate analyses of the predictive power of the PEP/EP ratio and a host of clinical prognostic indicators showed that the PEP/EP ratio and five clinical descriptors including the number of previous myocardial infarctions, diabetes mellitus, age, diuretic treatment, and bundle branch block retained maximal prognostic power. Among these the PEP/EP ratio clearly had greatest prognostic impact. In the patients studied between 14 months and 6 years after acute myocardial infarction,<sup>2</sup> univariate analysis showed that the PEP/EP ratio and age > 60, angina pectoris, dyspnoea, previous myocardial infarction, presence of S3 gallop, and cardiomegaly on chest radiograph were significant prognostic factors and that the PEP/EP ratio was the strongest prognostic factor.

Northover examined 24 hour rhythm monitoring tapes and the signal averaged electrocardiogram as electrophysiological variables that may provide independent mortality risk discriminating power. None of the commonly tested rhythm disturbances added independently to mortality risk after allowance for the PEP/EP ratio and the five clinical descriptors noted above. The occurrence of late potentials on the signal averaged electrocardiogram, which showed a significant independent univariate association with mortality, did not augment the

mortality risk discriminating power of the PEP/EP ratio combined with the five clinical descriptors listed above.

These observations draw attention to the potency of the PEP/EP ratio as an indicator of mortality risk in patients with recent and remote myocardial infarction. The high sensitivity (88%) and specificity (96%) of the PEP/EP ratio in detecting abnormal and normal global ejection fraction in patients with previous myocardial infarction<sup>3</sup> supports evidence that these measures may be equally potent discriminators of mortality risk. As yet we do not know whether the PEP/EP ratio adds significantly to or substitutes for the ejection fraction measurement in mortality risk discrimination.

I congratulate Dr Northover for his singular effort in contributing evidence that a measure of ventricular function, other than the global ejection fraction, can provide more potent mortality predictive power than commonly applied clinical descriptors; this relatively inexpensive approach to the assessment of ventricular function seems to be a better predictor of risk than 24 hour rhythm monitoring and the signal averaged electrocardiogram.

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- 1 Northover BJ. Left ventricular systolic time intervals in patients with acute myocardial infarction. *Br Heart J* 1980;43:506-13.
- 2 Weissler AM, O'Neill WW, Sohn YH, Stack RS, Chew PC, Reed AH. The prognostic significance of systolic time intervals after recovery from myocardial infarction. *Am J Cardiol* 1981;48:995-1002.
- 3 Stack RS, Sohn YH, Weissler AM. Accuracy of systolic time intervals in detecting abnormal left ventricular performance in coronary artery disease. *Am J Cardiol* 1981;47:603-9.

## BOOK REVIEWS

**William Heberden. Physician of the Age of Reason.** Ernest Heberden. (Series: Eponymists in Medicine) (pp. xiv + 246; £12.95 hardback; £7.95 softback) London: Royal Society of Medicine Services, 1989. ISBN I-85315-116-5.

Great biographers not only write about their subjects but in a sense become the subjects. The writer must be immersed in the appropriate time and place, recognising that subsequent historical changes may influence present interpretation. If written or oral records are sparse, the author cannot penetrate the mind and heart of the subject of the biography. Then the alternative choices are adherence to established facts, with speculation about what has come to be called "soft" data, or historical fiction. To some extent all biographies are historical fiction, for the characters portrayed exist only in the imagination of the writer.

Ernest Heberden is the fifth generation descendant of William Heberden, the eighteenth century physician. In view of Heberden's eminence as a London practitioner, the respect in which he was held by colleagues and the general public, his original medical contributions, and his popular "Commentaries on the History and Cure of Diseases" it may seem surprising that no full-scale biography has been written previously. Ernest Heberden admits limited knowledge of his distinguished ancestor before his investigation and "no family archives," but he did an exhaustive search of historical records, William's publications, and his available preserved letters. Despite this diligent pursuit, the elder Heberden escapes the firm grasp of the biographer. One is forced to conclude that William Heberden wished to obscure his personal life and that of his family. Neither he nor his son, William, disclosed much information that could not have been gathered from other sources. William Heberden had famous and influential friends in and out of his profession, but apparently few intimates. His friends made numerous references to his pleasing personality; hospitality, calm judgment, rectitude, frankness, erudition, clarity, modesty, and religious faith as well as his professional ability. Heberden was the personal physician of two insightful and highly critical observers: Samuel Johnson and John Hunter. It is possible that none of his distinguished friends felt that they knew the inner man well enough to undertake a biography or that he dissuaded them. Certainly, he outlived most of his contemporaries and he may have so awed younger men that none attempted a biography.

The bare facts of Heberden's life are impressive. He was a poor London boy who had the good fortune to be stimulated by an inspiring grammar schoolmaster who pushed him into study of classic languages and arranged his entrance into Cambridge University at the age of 14. He continued his scholarly studies, mastering Latin, Greek, and Hebrew, as well as other academic subjects. Deciding to study medicine at Cambridge, he spent some time in an unspecified London hospital. He was permitted to accelerate his programme and was awarded the MD degree at the age of 27. William remained at Cambridge, teaching materia medica and seeing local patients. After a decade, he moved to London and met with early success in practice.

Although London had several prominent surgeons on the staffs of various hospitals, most of its well known physicians saw patients in the physician's home, in the patient's home, or in coffee houses. Heberden did not approve of medical education in London hospitals, but he was powerless to change the system. His admirable qualities were recognised quickly by colleagues and patients and soon he was considered to be one of London's leading physicians. The author traces William Heberden's rise to the top of the profession as well as his invaluable contributions to the Royal Society and the College of Physicians. He was instrumental in organising publication of the *Medical Transactions of the College of Physicians* and read numerous papers before the college, both original and communications from friends or acquaintances. Heberden enrolled in what he knew was an unpopular cause: the right of Dissenters (those not members of the Church of England) to join the College of Physicians.

Many of these were graduates of the University of Edinburgh, one of the outstanding medical schools of all Europe. The cause failed and the rights of Dissenters were denied for another 100 years. Although William was a dedicated member of the Church of England, he did not hesitate to annoy a minority of the lesser clergy and most of the bishops by his forthright stance on Dissenters. Heberden had the ability to challenge stands of his friends on important principles without alienating them.

Heberden was the first to separate chickenpox clearly from other exanthems and described the arthritic knobs of the distal phalanges, and his description of angina pectoris in 1768 is one of the classics of medicine—so complete that little has been added since. Here he shows his modesty in referring to a friend (probably Dr John Fothergill) who had recognised the condition for some years. He was not aware of the cause of the symptoms and had not had the opportunity to observe a postmortem examination in a case. After an abstract of his description of angina was published in *Critical Review* in 1772, a reader (probably not a physician as stated) recognised the similarity to his own symptoms and realised the likelihood of sudden death. He wrote to Heberden saying that he wished a postmortem examination to be arranged in the event of his sudden death; this request was fulfilled a few weeks later by Heberden who enlisted the services of John Hunter, the leading British surgeon and pathologist. Although the biographer doubts that William Heberden and Edward Jenner had ever met, both were present at this necropsy, Jenner being Hunter's assistant at the time. Nothing was found to account for the symptoms, but Jenner, reflecting on the episode years later, doubted that the coronary arteries had been examined. Heberden did not think that angina was associated with an anatomical abnormality. Despite this belief, he presented a paper submitted by Dr John Wall to the College in 1772, in which Wall attributed angina to aortic stenosis in a single case examined pathologically. Heberden's reading of Wall's contribution to the college is a demonstration of his objectivity and generosity, even when he did not agree with the conclusion. Later, Jenner related angina pectoris to coronary artery disease and wrote to Heberden about his observations. The biographer quotes Baron (1838) as saying that the letter (incorrectly dated 1778 instead of 1786) was never posted, but Otterly (1839) said that it was. In 1799 Parry published his excellent book on angina pectoris, giving strong support to the ischaemic theory. Black had published a similar view in 1795. There is no evidence that Heberden ever recognised the cardiac seat for the symptom. In his commentaries, Heberden repeated his description of angina, but this was written at a much earlier date (writing completed in 1782).

The commentaries were written in Latin for the benefit of any of his sons who might choose medicine as a career. His son, also William, translated the text into English and published it in 1802, the year after his father's death. There is no doubt that the elder Heberden's modesty about this contribution delayed its publication for a generation. The commentaries received immediate and lasting acclaim in Britain and abroad.

William Heberden made perceptive observations on vital statistics, disposal of human wastes, sanitary water supplies,

prudent dieting, polypharmacy, the inefficacy of most medicines then available, optimum age for retirement, and medical education, both undergraduate and postgraduate. He recognised the dangers of tobacco, alcohol, and opium, but advised that opium should not be withheld in hopeless cases in which it could give relief. He deserves a place in medical history for even these "minor" contributions. In addition to reading classic languages, he was interested in current literature and was an amateur astronomer. He and his companions, John Hunter and John Fothergill, were friends of Benjamin Franklin, and Heberden and Fothergill were sympathetic to the American cause in the revolution. Heberden was a keen observer and critic, but he was not a scientist in the mould of two friends, Stephen Hales and John Hunter, nor the much younger Edward Jenner.

The author has written a creditable biography in view of his ancestor's modesty and taciturnity about personal affairs and the lack of information that might have been supplied by his contemporaries. William Heberden stands partially revealed after almost two centuries, despite his apparent desire for obscurity. Ernest Heberden has served the medical public well in not honouring this wish in view of the greater good. All who are interested in William Heberden or in British medicine in the latter half of the eighteenth century will want to own this book. There is an excellent set of references for each chapter and the index is accurate and valuable. A sketch of William Heberden, the younger, follows the biography.

WILLIAM L PROUDFIT

**An Unquiet Life: Memoirs of a Physician and Cardiologist.** J F Pantridge. (pp. xix + 122; £9.95.) Antrim, Northern Ireland: Greystone Books, 1989. ISBN 1-870157-07-9. We have been asked to point out that this book is no longer available from Greystone Books. Copies should be ordered from: The Secretary, The Heart Fund, Institute of Clinical Science, Royal Victoria Hospital, Belfast BT12 6BA, or from bookshops in Northern Ireland.

Cardiologists world wide will know or know of Frank Pantridge as one of the "personalities" of our specialty in the postwar years, and also as the father of pre-hospital care for myocardial infarction. Pioneers do tend to have similar attributes that command attention: not only originality but boundless energy, dogged determination, and a readiness—with suitable provocation—to show disrespect for the establishment. These qualities come blazing through this fascinating book with a terse incisiveness that is so characteristic of the author.

This is not an autobiography but a collection of reminiscences as the subtitle suggests. It is written for the general reader. If cardiologists find a particular fascination with the book it will be because they learn more of the man and not because the contents have any narrow interest. They do not. Pantridge the cardiologist hardly emerges until the last 30 pages. After some insights into his student years we have two harrowing chapters on the author's war experience first as a medical officer in Singapore and very soon as a prisoner of the Japanese. Some of us old enough to remember those dark days still

need reminding that incredible incompetence allowed 30 000 Japanese to defeat 85 000 allied troops who were given little chance to defend what should have been an impregnable fortress. And that in one camp only 182 of 1600 British prisoners survived the war (most camps were little better). As we read of the atrocities and of the privations that were suffered by those who were captured, we can only marvel at the spirit that kept any of them alive. How easy to understand why Pantridge remains full of anger after so many years—anger on account of the many he strove to help but who died under terrible conditions and seemingly so needlessly: colleagues, friends, strangers from other lands. But of self pity there is none. Indeed Pantridge makes the point that such experiences can even be salutary; but only an indomitable character could remain sufficiently unscathed to emerge the tougher for such an apprenticeship to life.

I first encountered Pantridge in 1968 after a lecture on the new concept of pre-hospital care that was given at the Massachusetts General Hospital where I was then working—a meeting that made more impression on me than it would have done on him. Alone of the audience, I was unimpressed and deeply sceptical. A prophet is not recognised in his own country, but neither is he recognised by his own countrymen. It was fate rather than insight that led to my own conversion to the cause a year or so later. I was not the last, and indeed only recently has the value of Pantridge's work been widely appreciated in Britain. Even now, Pantridge himself has not received the acclaim that might seem appropriate for one who has made such a major contribution; perhaps the very characteristics that enable a man to modify strongly held views among his peers are the ones least likely to earn the reward of recognition.

This little book remained too long on my shelf with other tasks that await convenient moments that so rarely come. But once I had opened it I found it was no chore. It was full of interest, and I have profited from having read it. Others will feel the same.

DOUGLAS CHAMBERLAIN

**In Search of Truth. A Portrait of Don Craib.** E B Adams. (pp. xi + 123; £7.95 paperback; £12.95 hardback) London and New York: Royal Society of Medicine Services, 1990. ISBN 1-85315-118-1 (paperback); ISBN 1-85315-119-X (hardback).

It would be easy to glance at this brief biography and label it as no more than an affectionate tribute to a mentor by a disciple but that would be wrong. True, it may be of more immediate interest to older graduates of the University of the Witwatersrand Medical School than to other readers, but some very important historical aspects of the development of electrocardiography are ventilated in this book. When eyes are focused on the political ferment in South Africa a reminder of other aspects of life in that country is timely.

William Hofmeyr Craib was part Scot, part Afrikaner: his middle name indicates his membership of an extraordinary family of intellectual distinction and political achievement now largely forgotten. Having served in the British army in France during the first world war, he stayed on to qualify in