

EDITORIAL

THE LONG-TERM PROGNOSIS OF CARDIAC INFARCTION

'The life of him who has had an unmistakable attack of angina is not insurably safe for an hour. And yet existence may be protracted for years. Is there any method whereby we can with a reasonable amount of security place a given sufferer among those who shall be cut off the next instant, or among those who shall survive for years? I know of none.'

Walter Hayle Walshe, 1862.<sup>1</sup>

Until recently, practitioners had little to offer patients who had recovered from an attack of acute cardiac infarction. In some cases, the patients were correctly advised to adjust their way of living along physically and emotionally less strenuous lines. Others, again, were pertinently warned against the danger of adding obesity to the burden of their damaged hearts. Nothing was done to inhibit the extension of the underlying coronary atherosclerosis and occlusion, or to prevent fresh infarction. The last few years, however, have witnessed the institution of research into practical measures aimed at these fundamental aspects of the disease. Two of the most widely canvassed of these measures, viz., long-term anticoagulant therapy,<sup>2</sup> and the dietary reduction of the serum-cholesterol level,<sup>3</sup> have recently been discussed in these columns. The possible role of surgical procedures to increase the coronary blood flow is also being investigated.<sup>4</sup> In the near future, a spate of publications extolling or denying the virtues of these and other procedures may be expected, and their proper evaluation will require a full appreciation of the natural history of cardiac infarction. Accordingly, we feel that a brief review of the latter will be of interest to practitioners when they come to consider the claims made by the rival advocates of the above regimes.

About a quarter of all the victims of cardiac infarction die in the acute attack or soon after; approximately another quarter of all episodes of cardiac infarction are clinically 'silent' and the diagnosis is only made as a chance finding at necropsy. The present discussion is concerned only with the remaining 50%, i.e. with those who survive clinically recognized episodes of acute infarction by a month or more. A number of large-scale prognostic studies of such patients have been reported and we have selected 4 of them for discussion.

The first 2 of these studies deal with hospital experience. At Oxford, Honey and Truelove<sup>5</sup> have studied 348 men and women surviving at least 2 months after their acute attack; the majority of these subjects were more than 60 years old. This study is particularly noteworthy because only 1 case of this large series was lost to follow-up. After 5 years 61% were still alive, and after 10 years the survival rate was 32%. The cause of death in nearly half the cases was recurrent cardiac infarction. From Chicago, Cole *et al.*<sup>6</sup> reported their experience with a somewhat younger group of patients (mean age 56.7 years). Of an initial series of 356 2-month survivors of acute cardiac infarction, 71 were lost to follow-up; of the remaining 285, 67% were

alive after 5 years and 44% after 10 years, while 10% were still alive 15 years after the initial attack. Again, more than half of the deaths were due to recurrent infarction.

From Boston, Richards *et al.*<sup>7</sup> have reported the results of a 25-year follow-up study of 162 patients who were alive 1 month after their acute cardiac infarction. This series is of special interest in that all the patients were originally seen in the private practice of one physician (Dr. Paul White) at least 25 years ago. Of these patients 49% were alive after 5 years, 31% after 10 years and 23% after 15 years, while 6 patients (4%) were still alive after 25 years. In 1920-1930, when these cases were originally seen, the diagnosis of cardiac infarction was usually made in elderly patients with the 'classical' severe clinical picture. This may account for the relatively poor prognosis when compared with more modern series in which increased experience, more extensive electrocardiography, and perhaps a change in the pattern of the disease, have resulted in the diagnosis being made in younger subjects and in milder and more atypical forms of the disease. In the Boston series, as in those from Oxford and Chicago, half of the deaths were due to a recurrence of the disease.

Finally, the report of Morris *et al.*<sup>8</sup> may be of personal interest to our readers. It deals with medical practitioners registered with a London medical insurance society, 162 of whom had survived a first attack of 'coronary thrombosis' by at least 1 month. In this series, the survival rate after 5 years was 76% and after 10 years it was 55%. These doctors were all 40-64 years old, i.e. somewhat younger than in the previous series, and this probably accounts for their better prognosis.

It is generally agreed that cardiac failure, cardiomegaly, arrhythmia, and a previous history of cardiac infarction, all indicate a relatively bad prognosis.<sup>5-7</sup> Hypertension and diabetes mellitus are also generally regarded as bad prognostic factors, but this was not confirmed in the Oxford survey.<sup>5</sup> In young patients, the prognosis is better than in older ones.<sup>5,6</sup> Angina pectoris, developing after an episode of cardiac infarction, worsens the prognosis.<sup>5,8</sup> On the other hand, long-standing angina pectoris before an attack of cardiac infarction does not worsen the prognosis and, according to the Chicago survey,<sup>6</sup> it actually improved it; this may be due to the better coronary collateral circulation which develops in patients with long-standing angina pectoris.<sup>9</sup> The prognosis is particularly good in those cases who survive their cardiac infarction without any residual cardiac failure, angina pectoris, arrhythmia or cardiac enlargement. In the Boston survey,<sup>7</sup> the 5-year survival rate for this group was 82%.

Summing up the findings in the above surveys, it may be stated that, of patients who survive an episode of cardiac infarction, approximately two-thirds are alive after 5 years and about one-third to one-half are alive after 10 years. When considered in relation to the average life-expectancy

of the general population at the same age, it will be realized that the usual gloomy prognosis in survivors of cardiac infarction is unfounded.

Nevertheless, there can be no justification for complacency; in the above surveys, at least half of the deaths were due to recurrence of cardiac infarction and many of the other deaths were due to cardiac failure or to some other cardiovascular cause. It is important, therefore, that any measure which may inhibit the development of atherosclerosis and coronary occlusion should be given the most careful consideration and, if possible, should be submitted for clinical trial. It will be clear from the above account of the natural history of cardiac infarction that clinical trials will be fraught

with difficulty. Trials will have to be of several years' duration and, to allow for the considerable individual variation in prognosis, the clinical material will have to be very large. Without these criteria it will not be possible adequately to assess the efficacy of any therapeutic regime.

1. Walshe, W. H. (1862): *A practical treatise on the diseases of the heart and great vessels, including the principles of physical diagnosis*, 3rd ed., p. 198. London: Walton and Maberly.
2. Editorial (1958): *S. Afr. Med. J.*, 32, 511.
3. Editorial (1958): *Ibid.*, 32, 488.
4. Beck, C. S. (1957): *Ann. Surg.*, 145, 439.
5. Honey, G. E. and Truelove, S. C. (1957): *Lancet*, 1, 1209.
6. Cole, D. R., Singian, E. B. and Katz, L. N. (1954): *Circulation*, 9, 321.
7. Richards, D. W., Bland, E. F. and White, P. D. (1956): *J. Chron. Dis.*, 4, 415.
8. Morris, J. W., Heady, J. A. and Barley, R. G. (1957): *Brit. Heart J.*, 19, 227.
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## VAN DIE REDAKSIE

### NAVORSING OOR EPILEPSIE

Epilepsie is een van die siektetoestande wat die langste bekend en die vroegste beskryf is. Omdat dit so nou verbonde is aan corticale funksie en aan persoonlikheidsreaksies, is dit ook een van die interessantste siektes wat bestaan. En tog bly die antwoord op die oorsake van baie epileptiese toestande nog uit.

Daar is op hierdie gebied oor die wêreld al 'n groot hoeveelheid navorsing gedoen. Ons dink byvoorbeeld aan die werk van mense soos Penfield, Lennox en baie andere. Hulle werk en navorsing het in groot mate bygedra tot 'n beter kennis van baie van die basiese en nuwe-probleme van die epileptiese gesteldheid.

Omdat so baie van die vrae na die aard en veroorsaking van die epileptiese verstourings, en dus ook van breinfunksie, onbeantwoord bly, is dit belangrik dat navorsing, soos waarna ons hierbo verwys het, moet voortgaan. Hierdie oorweging geld ook, en veral, vir ons in Suid-Afrika aangesien hier eintlik geen navorsingsinrigting vir die epileptiese toestande bestaan nie.

Epileptiese pasiënte kan wel psigiatrisie en neurologiese ondersoek ontvang—deur private geneeshere of in algemene hospitale en in hospitale vir geestesversteurdes—maar, van sistematiese navorsingsprojekte oor die hele gebied van die epileptiese gesteldheid met sy wye vertakkinge, is daar geen sprake nie.

Afgesien van die inrigtings vir geestesversteurdes waar epileptiese pasiënte om hul psigotiese toestand aangehou word, het ons 'n paar inrigtings in Suid-Afrika waar normale, dit wil sê nie-psigotiese pasiënte, versorg word. Daar

is byvoorbeeld die Randse Werkverskaffersvereniging vir Epileptici in Johannesburg waar 'n betreklike klein aantal volwasse epileptiese persone, sommige met hul gesinne, versorg word. Dan is daar die Jan Kriel-Skool vir Epileptici te Kuilsrivier waar ongeveer 120 opvoedbare epileptiese kinders versorg en opgelei word. Hulle kan daar skoolopleiding ontvang tot standard 10. Ook kry hulle simptomiese behandeling vir hul epilepsie. En onlangs is 'n begin gemaak met 'n tweede skool vir epileptiese kinders in Kimberley—die Alexanderfontein-skool. Hierdie skole en inrigtings is egter slegs toeganklik vir blanke epileptiese persone en daar is geen spesiale navorsingsafdelings aan enigeen van hulle verbonde nie.

In Suid-Afrika met sy bevolking van nagenoeg 15 miljoen persone van alle rasse, lê daar dus 'n groot onontgonne gebied van navorsing. Aangesien navorsingswerk op mediese gebied in hierdie land, op ander gebiede, goed vergelyk met wat in die res van die wêreld gedoen word, moet ons ook ernstig daaraan dink om die leemte wat betref epileptiese navorsing aan te vul.

Ons wil dit dus in die vooruitsig stel dat die nuwe mediese skool van die Universiteit van Stellenbosch, tesame met die departemente van sielkunde en sosiologie (wat almal vlak naas die Jan Kriel-Skool vir Epileptici lê), in hul ontwikkelingsprogram hierdie gebied van navorsing in gedagte sal hou. En dieselfde oorweging geld ten opsigte van die Witwatersrandse mediese skool en die genoemde ander universiteitsdepartemente, wat naby die Randse inrigting en betreklik naby die skool op Kimberley is.