THE POSTGRADUATE MEDICAL JOURNAL

London

April 1959

INTRODUCTION

SIR GEORGE PICKERING

In this country, and in North America, ischaemic heart disease is the commonest single cause of death, and as the condition has been defined as 'the cardiac disability, acute or chronic, arising from reduction or arrest of the blood supply to the myocardium in association with disease processes in the coronary arteries' (WHO, 1957), the key to the problem should lie in these arteries. So it may, but after years of intensive study we are still completely ignorant about the relationships between arterial atheroma in general and coronary atheroma; between coronary artery disease and the occurrence and significance of thrombosis therein, and indeed between the basic pathological findings and the major clinical manifestations of ischaemic heart disease, namely, angina pectoris and myocardial infarction.

Our ignorance about an increasingly common condition presents us with a challenge which we cannot ignore, although the increasing incidence of ischaemic heart disease has, on occasion, been 'explained' in terms of an ageing population, increasing awareness of the condition, and better diagnostic facilities.

The diagnosis of angina pectoris rests on the patient's history, and laboratory investigation only plays a secondary role. 'Yet, 138 years after the condition was described by Heberden (1772), Osler (1910) wrote: 'It is a disease for

seniors to discuss, since juniors see it but rarely; indeed, I had reached the Fellowship before I saw a case. . . . During 10 years I did not see a case at the Montreal General Hospital and only one case at the University Hospital, Philadelphia.' This is certainly not true today.

In 1926, 1,880 deaths were ascribed to coronary disease; in 1936, 14,095; and in 1956, 74,790 (this represents 14.3 per cent. of all deaths for 1956, compared with 17.8 per cent. from malignant diseases and 11.5 per cent. from chest diseases). The bulk of these deaths were certified as 'coronary thrombosis,' but, as Blumgart *et al.* (1940) showed, coronary thrombosis may exist without myocardial infarction, while Branwood and Montgomery (1956) maintain that myocardial infarction can occur without coronary occlusion. This syndrome of myocardial infarction was first described by Hammer (1878) and later by Dock (1896) and Herrick (1912), but its significance was not realized in this country until 1925, when McNee's paper appeared. Its apparent frequency would naturally increase thereafter, but Cassidy (1946) reviewed his 1916-26 case notes and could find very few instances in which, in the light of subsequent knowledge, a diagnosis of myocardial infarction could be made. As well as an increasing awareness of the condition, better diagnostic facilities could perhaps account for the striking increase. This increase has, however, continued up to the present time, whereas from the time of development of the unipolar limb and chest leads (Wilson *et al.*, 1934) up to the advent of transaminase estimations (Karmen *et al.*, 1953) no real advance was made in our diagnostic aids. Moreover, the ratio of male to female death rates from ischaemic heart disease has increased sharply since 1910, and it is difficult to believe that there are different diagnostic criteria for men and women.

This, then, is the challenge, and in the papers which follow the reader will see how it is being met. One point which is worth emphasizing is that statistical correlation does not mean causation. Thus, although the Framingham survey (Dawber *et al.*, 1957) showed that men with high serum-cholesterol levels are more likely to develop ischaemic heart disease than those with low levels, this may simply mean that the disease and the abnormal lipid levels have some common, and as yet unknown, cause. Similarly, it is clear that dietary manipulations can lower the serum-cholesterol level, but until we know whether the high cholesterol level is a causal factor, or whether it is merely a coincidental change, we are not entitled to assume that such manipulations represent a rational and potentially effective line of treatment.

We must approach the whole problem, not with the idea of proving some particular point, but with an open, critical and enquiring mind.

BIBLIOGRAPHY

- BLUMGART, H. L., SCHLESINGER, M. J., and DAVIS, D. (1940): *Amer. Heart J.*, **19**, 1.
 BRANWOOD, A. W., and MONTGOMERY, G. L. (1956), *Scot. med. J.*, **1**, 367.
 CASSIDY, M. (1946), *Lancet*, **ii**, 587.
 DAWBER, T. R., MOORE, F. E., and MANN, G. V. (1957), *Amer. J. publ. Hlth* Supplement, **P. 4**.
 DOCK, G. (1896), 'Notes on the Coronary Arteries,' Michigan, Inland Press.
 HAMMER, A. (1878), *Wien. med. Wschr.*, **28**, 102.
 HEBERDEN, W. (1772), *Medical Transactions R.C.P.*, London, **2**, 59.
 HERRICK, J. B. (1912), *J. Amer. med. Ass.*, **59**, 2015.
 KARMEN, A., WROBLEWSKI, F., and LA DUE, J. S. (1953), *Clin. res. Proc.*, **1**, 90.
 MCNEE, J. W. (1925), *Quart. J. Med.*, **19**, 44.
 OSLER, W. (1910), *Lancet*, **i**, 697.
 WILSON, F. N., JOHNSTON, F. O., MACLEOD, A. G., and BARKER, P. S. (1934), *Amer. Heart J.*, **9**, 447.