HAEMOSTATIC FUNCTION AND ISCHAEMIC HEART DISEASE

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The Northwick Park Heart Study (NPHS) (Meade and North, 1977; Meade et al., 1980) is a prospective study of haemostatic function in the pathogenesis of ischaemic heart disease (IHD). It is based on the traditional application of epidemiology — that is, the comparison of groups to draw general inferences about causation and pathogenesis.

There are two main reasons for prospective rather than case-control or cross-sectional studies of IHD when the results of blood tests (as opposed to personal or medical histories) are involved. One is that a myocardial infarct may have long-term effects on many biochemical or haematological characteristics (Meade, 1981). In these circumstances, data collected after the event make it impossible to distinguish cause and consequence. The second is that a high proportion of all first major IHD episodes manifest themselves as sudden death. Cross-sectional studies cannot contribute to the study of this major component of the syndrome.

The early prospective results of NPHS, based on 1510 men aged 40-64 at recruitment, show that those who later died of cardiovascular disease had significantly higher entry values of factor VII\textsubscript{C} and VIII\textsubscript{C}, fibrinogen and cholesterol than those who survived. The figure gives the numbers of deaths in the low, middle and high thirds of the distributions of the four variables. The range of factor VII\textsubscript{C} values, for example, has been subdivided so that there are equal

\*The subscript\textsubscript{C} is used here to denote factor VII or VIII measured by a biological or clotting assay. No subscript is used when a clotting factor is referred to in general terms and without specifying a method of measurement.

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numbers of men – about 500 – in each third. If there were no association between factor VIIc and cardiovascular death there would be equal numbers of deaths in each third. In fact there is a steady rise. About 60% of the cardiovascular deaths occurred in the high third of the factor VIIc distribution. There are similar patterns for factor VIIIc and cholesterol. Though highly significant, the trend for fibrinogen is not entirely consistent – there is some reason for believing this is the result of small numbers. There was a marked tendency for those who died of cardiovascular disease to have had high levels of two, or all three, of the clotting factors in question (Meade et al., 1980). There is no firm evidence of any association between clotting factor levels at recruitment and death from cancer. In other words, the associations seem to be specific for cardiovascular disease.

The increasingly important question is what interpretation to put on the prospective findings. They are compatible with the idea...