Evaluation of Type A personality

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Summary: When we look for the criteria for causation of Type A behaviour for coronary heart disease, we lack the reproducibility, the predictability to a certain extent, a pathogenic mechanism and an animal model, all four of the eight recognized criteria for causal inference. The debate therefore is still wide open.

Techniques of behaviour pattern classification

The first method used to determine Type A behaviour was a structured interview (SI), and sound tapes used for training interviewers (Friedman & Rosenman, 1959). Today video tapes and diagnostic indicators of Type A behaviour which show a time urgency and hostility score are also used (Friedman & Powell, 1984). The original personality score used was divided into a full blown Type A (Type A1), a largely Type A (A2), a full blown Type B (B4) and a largely Type B (B3) with an intermediate type (AB or X). Two other behavioural scores have been developed. One which is widely used is the Jenkins Activity Survey (JAS) (Jenkins et al., 1967), which is a 61 item questionnaire; and the Bortner Scale composed of 14 items (Bortner, 1969). Both these methods fail to include the total psychomotor behavioural dimension which includes the voice. Nevertheless they were both found to agree satisfactorily with the SI as used in the original collaborative group study and in our own Belgian Heart Disease Prevention Project (Kittel, 1984).

Comparison of Type A studies

Table I summarizes all the studies of Type A behaviour to date. Four show Type A to be a significant independent predictor for CHD, namely the Western Collaborative Group Study (Rosenman et al., 1975); the Framingham Study (Haynes et al., 1980); the French-Belgian Pooling Project (Kornitzer & Lellouch, 1984) and the control group of the Belgian Heart Disease Prevention Project (Kittel, 1984).

In the control group of the Belgian Heart Disease Prevention Project no hard CHD events occurred in B4 subjects while the highest incidence of hard CHD events occurred in A1 subjects. When the events in Types B and AB were added and compared with events in Type A, the risk of CHD in the latter was doubled. Moreover in this sub-group a positive gradient of hard events appeared with increasing quartiles of Type A scores, both by JAS and Bortner techniques. In the intervention group, on the contrary, no relationship
was found between Type A by the questionnaire and the incidence of hard events. Multilogistic function analysis using the classical risk factors, socio-professional class and cultural background (Dutch/French) confirmed the presence of a predictive power of Type A in terms of CHD events in the control group and its absence in the intervention group.

However, seven other studies failed to show any independent prospective relationship between type A and CHD incidence (Table I). In the Physical Fitness Study, multivariate discriminant analysis showed that smoking and serum cholesterol are predictors of the incidence of CHD whereas age, body mass index, linguistic culture and Type A behaviour according to JAS are not (Kittel, 1985).

These contradictory results demonstrate that the one essential criterion for causality is missing, namely reproducibility. What is the cause of these differences? The specific features of the American culture of Type A cannot be invoked since negative results are observed in the Honolulu Heart Project (Reed & Cohen, 1982) and MRFIT (Shekelle et al., 1983) studies and positive ones in the French-Belgian Pooling Project (Kornitzer & Lellouch, 1984) and the Control Group of the Belgian Heart Disease Prevention Project (BHDPP) (Kittel et al., 1982). Social class cannot be the main factor, as in the intervention group of the BHDPP Type A was not a predictor even in the white collar group. The effect of intervention programmes modifying Type A and thereby interfering with the results cannot be an explanation since in a prospective study without intervention no predictive power of Type A was found. Finally, the methods of assessment of Type A could be incriminated, but in our control group of the BHDPP, Type A by the JAS was an even better predictor than by the SI.

Our present conviction is that the psycho-social coronary risk profile is multifactorial. Apart from Type A, other risk factors such as the hostility dimension and other protective factors such as social supports have to be taken into consideration.

Pathogenesis of relationship of Type A behaviour pattern and CHD

Finally, there is the problem of pathogenesis. Some studies, essentially those using the SI, have found a correlation between Type A behaviour and the degree of coronary narrowing on angiography (Franck et al., 1978). Others, like ourselves, have not observed this relationship (Kornitzer et al., 1982). Friedman et al. (1960) observed a relation of Type A behaviour with urinary catecholamine excretion comparing 10 Type A1 and 10 Type B4s. We compared 30 Type A2 and 30 Type Bs and observed no difference either in urinary catecholamine excretion or in arrhythmias on 24 hr Holter recording in the two groups (De Backer et al., 1979).
References


