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THE ASSOCIATION OF MORTALITY FROM THROMBOEMBOLIC DISORDERS AND ORAL CONTRACEPTIVE USE

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My own interest in mortality data was motivated by the studies conducted in Great Britain on the association between oral contraceptives and thromboembolism and I should like to review these findings.

Inman and Vessey [1] reported their results in the *British Medical Journal* in April 1968. Their study consisted of an investigation of deaths in England, Wales, and Northern Ireland during 1966 in women age 20-44 with certificates mentioning "thrombosis or embolism of the pulmonary, cerebral, or coronary vessels, or other synonymous terms" (Table I). I should like

TABLE I

PREDISPOSING CONDITIONS IN DEATHS

	Predisposing Conditions (A) Absent	(B) Present
Pulmonary Embolism	26	49
Coronary Thrombosis	84	110
Cerebral Thrombosis	10	16

Source: Inman & Vessey (1)

to make a very simple but very important point with regard to the method used in this study and in the next that I shall describe. The method used is that of a case-control study: the approach is to compare cases and controls on the frequency with which their histories are positive for the agent of interest. This reverses the question of real interest, whether the disease occurs with different frequency in those using the agent and those not. In spite of this reversal, the inferences that are developed are in the forward direction and are often expressed in terms of the relative risk, the ratio of risk in users of oral contraceptives and in those not using the contraceptive. I offer this by way of explanation, not criticism; the method is an old and useful one.

Certain exclusions were made from these deaths: those not married, those in which the diagnosis was poor, or where the thrombosis or embolism was a terminal event to some other medical condition.

Interviews were conducted with the physicians and information obtained on the woman's oral contraceptive usage and medical history. Living controls were selected from these same physicians' files who were also 20-44, and information was obtained from the physician respecting their parity. One to one matching was not done. The pool of controls was used to provide estimates of the expected frequency of oral contraceptive usage.

Two classes of cases were identified, Class A patients, with no known predisposing conditions and Class B patients, who had known predisposing conditions. This is an important distinction. No one knows the extent to which persons with conditions regarded as predisposing to thromboembolic events are given oral contraceptives by physicians. If an evaluation is sought of the relationship between oral contraceptive use and death from thromboembolism in women with a history of predisposing conditions, then a control series of women who did not die of a thromboembolic cause but had such a history is required. No such

Present data on trends in mortality rates from thromboembolic causes have been analyzed in collaboration with Dr. Robert Markush of the National Institutes of Health. The data have been described in two papers, one of which appears in *The American Journal of Public Health* (2), the other of which will appear in *The American Journal of Epidemiology* (4).