

controls were available, and there is really very little that can be done with Class B cases.

Table II presents the result of this study.

TABLE II

DEATHS BY CAUSE AND ORAL CONTRACEPTIVE HISTORY

	Users	Non-Users
Pulmonary Embolism	16(4.2)	10(21.8)
Coronary Thrombosis	18(11.4)	66(72.6)
Cerebral Thrombosis	5(1.5)	5(8.5)

Source: Inman & Vessey (1)
Note: Numbers in parentheses are expected values from control experience.

For all three conditions there is a greater number of oral contraceptive users among the cases than the control experience would lead one to expect. Except for coronary thrombosis, the numbers are not large. There are only ten cases of cerebral thrombosis. Two of these contrasts are described as statistically significant; that for coronary thrombosis is described as nearly so.

I would like to take this opportunity to raise only one methodologic question that I have not seen discussed. Inman and Vessey say of the cases, "Questions were also included about any drugs, including oral contraceptives, which had been taken by the patient at the onset or at any time during the six months preceding the terminal illness." Of the controls, reference is made to "the current use of oral contraceptives." This is analogous to comparing a period prevalence to a point prevalence, and can represent a source of bias. It is the only potentially serious question which I am aware of that is not mentioned in an otherwise thorough discussion.

It should be pointed out that Table II provides an estimate of the relative risk for pulmonary embolism by the product of 16/4.2 times 21.8/10 or roughly 8. That is, we can infer the risk of death from pulmonary embolism in oral contraceptive users to be 8 times greater than in persons not using the drugs.

The study by Vessey and Doll [5] appears in the same issue of the *British Medical Journal*, and describes data on patients ages 16-40 admitted in the years 1964-66 to 19 general hospitals for venous throm-

TABLE III

CASES BY DIAGNOSIS AND ORAL CONTRACEPTIVE HISTORY

	Users	Non-Users
Venous Thromboembolism	26(5)	32(53)
Coronary Thrombosis	0(1)	13(12)
Cerebral Thrombosis	5(1)	4(8)

Source: Vessey & Doll (2)
Note: Numbers in parentheses are expected values from control experience.

bosis or pulmonary embolism (Table III). Exclusions were made here as well, of the non-married, of those with predisposing conditions, pregnant, postmenopausal, sterilized, and those suffering only superficial thrombophlebitis. The same exclusions were made in the controls. For each affected patient two controls were selected who had been diagnosed as suffering from an acute medical or surgical condition or had been admitted to hospital for an elective operation and who matched the affected patient in regard to hospital, date of admission, age, and parity. In this study, patients themselves were interviewed, something quite impossible in the mortality study. Information was sought on oral contraceptive use in the month prior to the start of the episode for which they were admitted.

For reasons not stated in their paper, cases of cerebral thrombosis and coronary thrombosis were also obtained, but no matched controls were selected for these cases. Hence, estimates of expected oral contraceptive use in these cases were taken from the controls selected to match the venous thrombosis and pulmonary cases. As in the mortality data there is a striking discrepancy between expected and observed proportions of the various thromboembolism cases that had been oral contraceptive users. Experience regarding cerebral thrombosis is limited, but similar to the mortality experience. In the case of coronary thrombosis no association is evident. The relative risk suggested by the data in the first row, for venous thromboembolism is about 8. The manner in which Vessey and Doll present their data does not permit separating the cases that had no previous thromboembolic episodes. They do say that the frequency of oral contraceptive use in cases with and without a history of previous