

It is very difficult to make any direct comparison between the thromboembolic risks of child-bearing and those of oral contraception. The Registrar General's statistics are known to underestimate the number of deaths in the puerperium attributable to venous thrombosis and pulmonary embolism, and deaths from these conditions occurring during pregnancy are not separately categorized. On the other hand, some deaths from thromboembolism during pregnancy or the puerperium are associated with predisposing factors that are unrelated to child-bearing. Also, in making all the estimates already described of the risks associated with oral contraception, it was assumed that the experience of our control series adequately represented that of the corresponding population of England, Wales, and Northern Ireland in 1966. There is good reason for thinking that this assumption may be incorrect. Thus 17.1% of the control women were using oral contraceptives, and this percentage is equivalent to about 975,000 woman-years of use in the general population. This estimate is almost 40% higher than that provided by the Association of the British Pharmaceutical Industry for the total distribution of oral contraceptives in 1966. It therefore seems very likely that we have underestimated the mortality attributable to oral contraceptives by a corresponding amount.

On balance, it seems reasonable to conclude that the risk of death from pulmonary embolism during one year's treatment with oral contraceptives is of the same order as the comparable risk of bearing one child. In assessing the risks, however, it is important to remember that women in the United Kingdom give birth, on average, to only two or three children in their lifetime, that other methods of contraception are reasonably effective, and that birth control may be practised during most of a woman's child-bearing years.

SUMMARY

Inquiries were made by the medical field-officers of the Committee on Safety of Drugs about the use of oral contraceptives by 385 married women aged 20-44 who died during 1966 in England, Wales, and Northern Ireland from thrombosis or embolism of the pulmonary, cerebral, or coronary vessels. For comparison, information about the use of oral contraceptives was also obtained for a control series of women drawn from the same doctors' practices as those in which the fatalities occurred.

A strong relation was found between the use of oral contraceptives and death from pulmonary embolism or cerebral thrombosis in the absence of predisposing conditions. The mortality from these two diseases attributable to the use of oral contraceptives by healthy women was estimated at 1.3 per 100,000 users aged 20-34 and 3.4 per 100,000 users aged 35-44 per annum.

The women who died from coronary thrombosis in the absence of predisposing conditions had been using oral contraceptives more frequently than would have been expected from the experience of the control group, but the difference did not quite attain statistical significance, and the existence of a definite association is regarded as not proved. If it is considered justifiable to include deaths from coronary thrombosis in the above estimates of attributable mortality, they may be recalculated as 2.2 and 4.5 per 100,000 users per annum for women aged 20-34 and 35-44 respectively, figures which agree closely with the estimate of risk given by the Medical Research Council (1967) in its preliminary report. It is probable, however, that all these estimates of risk are too low because information from independent sources indicates that our control data substantially overestimated the use of oral contraceptives by the general population in 1966.

No evidence was found that the risk of thromboembolism was associated with the use of any particular oral contraceptive formulation.

Only 15% of the deaths of women who were found to have been using oral contraceptives were reported independently to the Committee on Safety of Drugs.

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