

slides of the breast tissue and without divulging their source submitted them to five distinguished pathologists. Four of the five pathologists reported the tissue as cancer of the breast. The hyperhormonal stimulation of the sensitive breast tissues caused by the high estrogen levels in the mother's circulation results in an erroneous microscopic diagnosis. It is important to understand that microscopic changes of this magnitude can be reversible.

We know that every twentieth woman will develop cancer of the breast. We also know that if the mother, the sister or the maternal aunt had breast cancer, the risk is at least doubled, so that approximately one woman in ten will develop the disease. It is manifestly imprudent to prescribe oral contraceptives as a first choice birth control method to patients with a family history of breast cancer.

In this controversy, those who suspect a possible link between the oral contraceptives and breast cancer point to the following evidence: (1) Removal of the ovaries in lower animals and in women markedly reduces the risk of breast cancer. (2) Breast cancer has been induced in five different animal species by the administration of estrogens. (3) Chemical agents having carcinogenic effects in man also induce cancer in animals—often at the same site. (4) Bilateral breast cancers have developed in two male trans-sexual individuals treated with estrogenic hormones, and (5) The discovery of a high incidence of breast cancer among males (6.6 per cent compared to the general incidence of 1 per cent) in certain parts of Egypt where a parasitic infection of the liver interferes with the destruction of estrogens.

Those who argue against a possible link point to the lack of convincing evidence now available, after some ten years of use of the oral contraceptive, that breast cancer is caused by the pill. They call attention to the extensive use of estrogens by millions of women for many years in the treatment of menopausal symptoms without definite evidence of a carcinogenic effect, and finally, they are not willing to accept the animal experiments as being applicable to women.

With respect to the effect of estrogens on menopausal women, it should be pointed out that here we are dealing with replacement therapy. This cannot be compared to the prolonged addition of estrogens to a young woman's natural hormones. Furthermore, when one considers the prolonged latent period of carcinogenicity, many women in their menopausal and post-menopausal age brackets (late forties and fifties) may not live long enough for the carcinogenic effect to exert itself as clinical cancer.

Considering the question of the transferability of animal data to man, it is difficult for me to escape the conclusion that the results are relevant and must be regarded as significant.

The difficulty of demonstrating a causative relationship between the oral contraceptives and breast cancer obviously relates to the long latent period between exposure and final effect. A minimum of ten years is required before reliable results can be expected. Unfortunately, this experiment upon millions of women might prove to be too costly to contemplate.

When the oral contraceptives were introduced some ten years ago, they were hailed as a solution to the world's population explosion and a safe means of preventing birth of unwanted children. The simplicity and effectiveness of the pill have constituted a veritable blessing to millions of women. Unfortunately a broad area of disagreement as to their safety has developed. Thus a serious cloud has appeared, and the question has arisen as to whether the benefits outweigh the risks.

Although there is no conclusive evidence that oral contraceptives cause breast cancer, the *potential* hazards involved in their protracted use by young healthy women cannot be ignored. Both physician and patient must be made aware of the possible risks and give due consideration to alternative contraceptive methods.

I cannot help being greatly concerned for the millions of women who are bound to be frightened by the mere suggestion that in using the oral contraceptives they face a potential risk of breast cancer, and I think it would be utterly wrong to frighten millions of women unnecessarily over a potential risk which can be controlled, minimized, and perhaps even eliminated. In the final analysis, we are faced with this dilemma: Do the "blessings" of the pill outweigh its longrange potential hazards?