

Dr. HERTZ. I said only of the currently marketed mixtures.

Mr. DUFFY. My question is this, when you say estrogens, do you mean all estrogens? If you were able to isolate natural estrogen as produced in the human body and fed it to mice, rabbits, hamsters, dogs, and so on, would natural estrogens also produce these effects or would it just be the estrogens found in contraceptive mixtures?

Dr. HERTZ. References Nos. 7 and 8 with which I documented my statement would indicate to you that such experiments have been carried out with a wide variety of estrogens both of natural and synthetic source, and that as long as the biological equivalent of estrogenic activity is there, the effect would be obtained irrespective of the nature of the estrogen.

Mr. DUFFY. It is your testimony then that natural estrogens also produce these effects, that is, cancer?

Dr. HERTZ. No question about it.

Mr. DUFFY. Thank you.

Dr. HERTZ. It is also to be noted that all chemicals known to produce tumors in man, such as the aniline dyes, arsenic, coal tar, and thorium also produce tumors in experimental animals and frequently in the same site. For example, the aniline dyes which produce bladder tumors in dyeworkers also produce bladder tumors in dogs. It would therefore seem reasonable to consider that women in turn may share with animals a carcinogenic response to estrogen-containing medications. Such an effect in women would be expected to occur especially after prolonged exposure during the entire reproductive period.

Mr. DUFFY. Doctor, may I interrupt you again though. Did you not tell me just a moment ago that natural estrogen produces these same effects as synthetic estrogens?

Dr. HERTZ. Yes, sir.

Mr. DUFFY. Well, then women naturally produce estrogen, is that not correct?

Dr. HERTZ. That is correct.

Mr. DUFFY. So that in fact what you are telling us is the very fact that a woman is alive she is exposing herself to the risk of cancer.

Dr. HERTZ. We are coming to that consideration in a subsequent part of the report when we discuss cancer of the breast in women.

Mr. DUFFY. Is that your conclusion?

Dr. HERTZ. Let us discuss that further after I have made my statements on that point. May I ask you to identify yourself to me, sir?

Mr. DUFFY. Yes, my name is Duffy, and I am minority counsel to the committee, sir.

Dr. HERTZ. Thank you.

Recognizing this possibility, the FDA, on the advice of its Advisory Committee on Obstetrics and Gynecology, requires each firm now marketing or testing an oral contraceptive to determine the long-term effects of such mixtures and of their respective ingredients in dogs and monkeys over a 7-year period. Thus far, two such preparations, Ethynerone and Neonovum, previously on clinical trial in women—but I should add, not on the market—have been withdrawn from further study because of breast tumors arising in animals. The estrogenic component of these two mixtures is identical with that contained in most of the preparations currently marketed and the progestational