

clinic, and you place a phone call to her home and you find she has been hospitalized. So questioning does turn this up to an extent, though.

Obviously, never to 100 percent.

Senator McINTYRE. Moving on with respect to the animal studies linking estrogen to cancer, you point out that the first experiments were performed on highly inbred strains of mice. As I understand it, most animal experiments are performed on pure breeds to assure reliability of results. Is there any evidence that this particular breed of mice was unusually susceptible to cancer?

Dr. GOLDZIEHER. Yes, sir. The Lacassagne studies in the 1930's used a highly inbred strain of male mice, as a matter of fact, and those experiments were complicated by a fact, then unknown, which was that there is a virus which is transmitted in mouse milk, which causes breast cancer. This raises serious problems with the whole studies.

The reason that pure bred strains of mice are used is not only because you get better experimental designs and better results with smaller numbers, but also because if you use a strain of mice which does not develop the cancer, you have spent a lot of time doing nothing.

Senator McINTYRE. Is there any evidence, Doctor, that the other four breeds of animals in which a relationship between hormones and cancer has been established were unusually susceptible to cancer?

Dr. GOLDZIEHER. The dog breast—the dog, as a matter of fact, is exceptionally susceptible to estrogens. In the dog you can destroy the tubes from the uterus to the ovary, by the administration of estrogen. It is a unique susceptibility. As a matter of fact, I might add that the beagle which is now——

Senator McINTYRE. The beagle?

Dr. GOLDZIEHER. The beagle, which is now being used and which is the basis of the present problem with the mini pill, the beagle is an especially susceptible breed of dog.

Senator McINTYRE. The other three?

Dr. GOLDZIEHER. I don't know at this moment exactly which strains of rabbits were used. You can vary the strain. You can vary susceptibility in any animal for anything you want by appropriate inbreeding.

Senator McINTYRE. It seems to me you are suggesting that Dr. Hertz, who testified here last week, may be less than objective on the subject of the relationship of hormones to cancer. It seems to me, Doctor, that he came to the same basic conclusion as you; namely, that we still do not know whether the animal studies linking hormones to cancer are relevant to human experiences.

However, do you know, Doctor, of any reason why Dr. Hertz would be biased in this matter?

Dr. GOLDZIEHER. I don't think I care to speak for Dr. Hertz. He is too good a friend of mine to debate with when he is not here. He and I have debated this, and I have my own thoughts on the subject, but I think it would be unfair to present them here.

Senator McINTYRE. You don't know of any reason that he would be biased?

Dr. GOLDZIEHER. It depends on what you mean by biased. If you mean opinionated, yes, he is.