

during development, which cells remaining quiescent, on being set into activity, rapidly proliferated into a cancer. In the other changes of a chemical, physical or structural character took place in the cells, thus taking on new functions and new activities.

Our knowledge advanced when it was discovered that cancer could be transmitted from one animal to another—and this knowledge has been gained by experimental means. True, it has been known for many years that the lower animals developed cancers similar to those seen in human beings, that in certain kinds they appeared more frequently than in others, that spontaneous cancers occurred in rats and mice.

When cancer has been experimentally transmitted from one animal to another, that is, when the cancer cells are grafted on a normal animal and when these cancer cells grow, divide and multiply, then we have growing cancer cells of the first animal in the second animal. As a rule the cells of the second animal take no part in the growth. And this cancer so inoculated can be transmitted to other animals almost unlimited.

But with this increment of knowledge and with this experimentation on animals, as yet no definite results have been discovered as to the cause of cancer.

The part or role heredity plays cannot be definitely assigned, any other than that we know or believe that heredity plays its part in the transmission of qualities favorable or otherwise to the growth of the cancers so transplanted.

The role played by micro-organisms, as evidenced by the occurrence of the disease in certain districts, epidemics of cancer cases, repeated occurrences in houses or families has been studied for a number of years and may seem to point to such as an origin, but it will be well always to bear in mind other causes as well as heredity in these cases.

So far as bacteria, yeasts or specific parasites go in the causation, experiments have so far failed to establish any true cancers resulting from the injection of these self-same parasites.

It has been proven too that in inoculated cancers pure chemical and physical factors have caused increased or diminished activity; and the study of tissue growth is throwing more light upon cancer growth.

To the study of cancer in lower animals we owe the opportunity to test various methods of cure or prevention, but as yet no cure has been established. Drugs, serum or vaccines can do nothing once it has started to grow. But on the other hand some definite results have been obtained in rendering animals resistant to the disease.