

MEDICINE

Method Spots Tumors Early

➤ A METHOD for spotting cancers "very early" in their growth stages was suggested to the National Academy of Sciences-National Research Council.

The method combines studies with ultraviolet and visible light, X-rays, and automatic scanning and computing equipment to allow following biochemical changes in individual cells as they occur. The changes caused by a virus attacking a host cell are "very apparent" within an hour after infection, reported Prof. Torbjorn O. Caspersson of the Royal Caroline Medico-Surgical Institute, Stockholm.

He said the technique, known as optical cytochemical, also offered a way to study some of the many factors involved in cancer development as well as for diagnosing early cancers. The method is sufficiently delicate to give quantitative results even on such tiny particles as the individual gene-carrying materials, the chromosomes.

Combining automatic computers with automatic scanning instruments has yielded a method for measuring thousands of points in each individual cell within a reasonable time. Previously cells were destroyed during the long working times required.

Dr. Caspersson said his studies had shown there were many differences in composition of advanced tumor cells, and that these differences change under the influence of such factors as chemicals or irradiation.

"In many cases these changes are such that parts of the cells die," he said, "and the parts selected out survive and multiply under the new conditions."

Dr. Caspersson cited the influence of the chemical agent, amethopterin in an ascites, or abdominal, tumor. In this case, a special cell line is selected out, "quite different from the original one." He said this was an example of how cytochemical analysis leads to studying the mechanism of cancer growth, which underlies sudden changes in growth rate.

Science News Letter, March 8, 1958

Do You Know?

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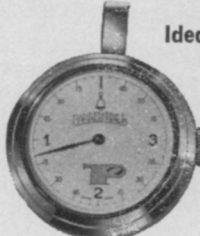
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