

MEDICINE

Sex Antagonism in Hormones Clue To Possible Cancer Foe

Female Sex Hormones Cause Cancer in Animals;
Male Hormone Checks It; Chemicals Now To Be Tested

BECAUSE of a suspected antagonism between male and female sex hormones regarding their cancer-causing properties, scientists have a new clue to what may be an anti-cancer chemical. The clue appears in an account of sex hormone investigations by Drs. J. R. Murlin, C. D. Kochakian, C. L. Spurr and R. A. Harvey of the University of Rochester. (*Science*, Sept. 22)

Various chemicals are soon to be tested for anti-cancer-producing properties, it is stated. These are probably not the known sex hormones but substances of similar chemical composition closely associated with the sex hormones. Whether or not these possibly anti-cancer chemicals will have any practical value in the fight against human cancer cannot yet be determined. The work so far has been on laboratory animals.

Female sex gland grafts and female sex hormones, it had previously been found by other investigators, caused the development of breast tumors in male mice, although these animals do not

normally develop breast tumors as female mice do. This suggested a possible antagonism between the male and female sex hormones with regard to cancer-causing properties which the University of Rochester scientists set out to investigate.

The male sex hormones, they found, "quite definitely inhibited (checked) the growth of the Brown-Pearce tumor" when this rabbit tumor was implanted in the animals. Some of the sex hormones also checked the growth of secondary tumors. These were hormone extracts from kidney excretions. Some pure hormone preparations, however, had no effect on either the growth of primary tumors or the development of secondary ones. This suggested that the hormone extracts contained substances other than the hormones which were responsible for checking the tumor growths. These substances have been separated from the hormones in the extracts and will be tested for their effects on cancer growth.

Science News Letter, October 7, 1939

GEOGRAPHY

Panama Canal Not First To Link American Oceans

IF PLANS for the Nicaraguan Canal, now revived, actually go to the digging stage, America will have achieved three—yes, three—out of four much-talked-of canals for linking the Atlantic and Pacific.

The four main canal routes which have at various times been considered by American engineers are:

First, the Panama route, now a 25-year-old reality.

Second, the route across southern Nicaragua, linking in the San Juan River and Lake Nicaragua. Planned as far back as 1825, this project is now being studied in conference by the Nicaraguan government and its neighbor Costa Rica, while American engineers

are again at the task of surveying the ground problems.

Third, the route across the narrowest part of Mexico, the Isthmus of Tehuantepec. A canal at this point, so much nearer the States than Panama, would bring Honolulu more than 1,200 miles closer to New York.

Fourth, a route farther south than any of these, across Colombia near its Panama border. This route actually has once been dug—dug and practically forgotten. It was America's first achievement in joining the oceans, undertaken with no thought of this significance, by a Spanish monk, Antonio de Cereso, and Indian laborers back in 1788.

Recent discovery of an old map show-



OLDER THAN PANAMA

This old map shows, marked with an "r," America's first canal linking the Atlantic and Pacific, the Canal of Rospadura.

ing this canal is reported by the WPA historical records survey. Premilas F. Becnel, going over historic documents at Tulane University's Department of Middle American Research, unearthed this map, and realized its historic value. Continuing the search for more records of the Canal of Rospadura, as it was called, Mr. Becnel and a research student assistant have since located eight more maps showing the canal, and have traced its history.

The canal joined the San Juan River, which has an outlet on the Pacific, with a tributary of the Atrato River, which flows into the Gulf of Darien on the Atlantic side.

America's first ocean-to-ocean canal was dug, not for trade, but to settle a boundary argument between two families.

It was a shallow ditch, but during periods of high water Indians began to find the route handy in their canoes, thus unknowingly becoming first to take a short cut water route from one coast of America to the other. Cacao beans for Indians and white people were the early commercial cargoes that crossed the continent via this canal.

A Philadelphia engineer in 1852 found