

NEWS

THE UNIVERSITY OF TEXAS
(SOUTHWESTERN)
MEDICAL SCHOOL AT DALLAS



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DALLAS--A barely visible worm which has stalled multi-million dollar irrigation projects and which contributes to the backwardness of many nations, is the target of two investigations by University of Texas System scientists.

The parasite and the disease it causes, schistosomiasis, are practically unknown in the United States. But in other parts of the world, it joins malaria and trachoma as a trio which infects 800 million persons, mostly in underdeveloped countries.

At The University of Texas (Southwestern) Medical School at Dallas, Dr. Donald V. Moore and coworkers are concentrating on the stage of the parasite's life cycle when it is a fork-tailed wiggler, ready to invade the human in water. At The University of Texas at Arlington, Dr. Andrew Ternay Jr. and Dr. Slayton Evans Jr. are searching for a drug which will be effective against the disease.

Schistosomiasis travels via water from man to snail and back to man. The parasites may go to the liver and intestinal walls where the body tries to wall them off with fibrous tissue.

Surprisingly, one female worm can produce 350 eggs a day and she may live for 30 years, Dr. Moore says. While schistosomiasis may not cause immediate death, it is a debilitating malady when added to the spectrum of other diseases in underdeveloped countries, he says.

The effect is powerful alone, however. A \$9 million irrigation project in Rhodesia had to be abandoned because of an upsurge in schistosomiasis.

Whether the malady has had an impact in history is not exactly known, says Dr. Moore, but he notes that evidences of the disease have been found in remains of Egyptian mummies.

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The disease is highly prevalent in Egypt and the completion of Aswan Dam irrigation projects may bring the disease to even more intense proportions.

The principal reason the disease is not a factor in the United States is that there is relatively good sanitary disposal of human wastes which might otherwise transmit the parasite to water and snails.

Actually, there are three types of worms involved in the disease: One kind is found in Puerto Rico, Venezuela, Brazil and Africa; another which is limited to Africa and the Mediterranean; and a third species found in oriental countries. The Puerto Rican form often is brought to New York with influx of people from that nation, but it doesn't spread there.

"The earliest treatment of the disease is recorded in a papyrus," notes Dr. Moore but he adds that no really effective treatment has been found yet. Present drugs under use are quite severe, he said. "We need something which can be given by mouth, along with an education program."

Dr. Moore is supervising graduate student Harold Asch in a program to determine the weaknesses of the cercaria or fork-tailed stage. A number of chemicals with variations of light, dark and heat are being explored at the medical school.

At Arlington, Drs. Ternay and Evans are using a relatively new technique, nuclear magnetic resonance spectroscopy, to search for chemicals effective against the disease.

The researchers say it would be practically impossible to eradicate the snail as a means of stopping the parasite.

In some cases there seems to be a sort of immunity "and we've played around with it" says Dr. Moore. But so far it hasn't yielded results.

Dr. Moore, an assistant professor, is the parasitologist for the medical school's Department of Microbiology. He established the State Health Department's parasitology division several years ago. Both Drs. Ternay and Evans formerly were with Case Western Reserve University in Cleveland.

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