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Cancer Research in Trans-Saharan Africa

GUEST EDITORIAL

An increasing number of reports on cancer in Africa south of the Sahara have attracted attention in recent years by the uniqueness of the problems and the enthusiasm of the investigators. Some observations made during 8 months in 1957 are here presented to supplement a review written in 1954 (1). The vast distances, the low population density, a certain degree of educational and economic underdevelopment in some areas, and the great urgency of the communicable diseases are factors in the research picture. The ethnology and environment vary greatly from place to place, so that generalizations on cancer and other diseases cannot be made. They are among the factors which enter into the design and interpretation of the research.

The governments are French, British, Belgian, and Portuguese, together with small Spanish holdings, some mandated territories, two independent African countries (Liberia, Ghana), and the Union of South Africa—a member of the British Commonwealth. The resources of scientifically trained personnel are limited in numbers, and the work load is heavy. The physicians are chiefly overworked governmental and mission employees and a few private practitioners, mostly in South Africa. Five medical faculties exist in South Africa, of which those of the University of the Witwatersrand at Johannesburg and the University of Cape Town are old and those at Pretoria, Durban, and Stellenbosch are newer. New schools, both affiliated with the University of London, are in operation at Kampala, Uganda, and at Ibadan, Nigeria, and a new school has opened at Dakar, French West Africa. Schools are just getting under way at Léopoldville and Elisabethville in the Belgian Congo. The medical college at Durban and all those mentioned in the other countries are open to Africans, who comprise most of the student bodies. They are faced with a dearth of adequately prepared candidates. There are also a number of medical research institutes, none primarily concerned with cancer.

The chief medical problems in the indigenous populations are still the infectious diseases. Tuberculosis, the two dysenteries, pneumonia, malaria, meningitis, and trauma take large tolls of human life, often at a young age. Hookworm, filariasis, schistosomiasis, yaws, leprosy, and ascars infect large numbers of people in some areas. Except for kwashiorkor in infants, overt malnutrition is not commonly seen in hospitals or dispensaries, and one gets the impression that its importance in Africa has been overemphasized in America except, perhaps, as a background condition.

Studies on the physical anthropology of the African have lagged behind those on social anthropology. In performing post-mortem examinations I was impressed by the need for studies to determine whether certain characteristics are abnormal (i.e., pathological) or normal (i.e., anthropological), and the same statement could be made with respect to biochemical and physiological values. The workers in Africa have been aware of this problem.

The population structure of the indigenous people is young, reflecting the short life span of many persons. Cancer is, therefore, numerically not an important disease except in a few hospitals, and its chief types are those characteristically found in young people and, in addition, carcinoma of the liver. In 2,000 consecutive post-mortems on native Africans which I reviewed at the General Hospital, Lagos, Nigeria, only 11 per cent of the subjects had reached 50 years of age or more. Most of these people had expired before getting into the great carcinoma age. Only 5.6 per cent of the 2,000 had a malignant neoplasm (including leukemia), a figure less than one-third that in countries where autopsy populations are older. Of the cancers 23 per cent were primary in the liver! This statistical
situation, so startling to a European or American-trained physician, is found also in other parts of Africa. In some places one is reminded of an epidemic. Much of the recent work in Africa was reviewed in 1956 in conferences held on liver carcinoma at Kampala (2) and on cancers of all types in the African at Leopoldville (3). Next to cancer of the liver, Kaposi's sarcoma is probably the most intriguing tumor problem, but there are others.

Although there are large ethnic and geographical gaps, the general cancer spectrum is now known, but many details are lacking, and the etiological significances of the peculiarities in the cancergram are still obscure. The quantitative aspects should be greatly clarified by rate studies now nearing completion (Davies in Uganda, Higginson in South Africa) or projected in various places. They should disclose not only the excessively high rates but, what is of equal importance in etiological studies, tumors with an abnormally low incidence. Special projects must be made for obtaining needed census and mortality data of types which will some day, no doubt, become a part of routine governmental operations as they are elsewhere.

An African Subcommittee of the Committee on Geographical Pathology of the International Union Against Cancer, formed in 1956 to aid research in cancer, held its first meeting in Johannesburg in May, 1957. This committee has consultative, advisory, and correlative functions, and it will try to stimulate new work. It has intimate knowledge of the special problems in Africa and deserves firm support.

This part of the world presents the opportunity to study cancer in large populations which have hardly been touched by industrialization. Urbanization of the people is going on rapidly in many places. Not entirely primitive, there are still many people who have little contact in their daily lives with the numerous organic compounds to which developed peoples are exposed. It would be highly desirable to know more about the cancers in these people, so that the effects of the great change in the environment, which is bound to come, can be determined. The investigators in Africa have made a good start in this important work. With support they can accomplish much more.

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REFERENCES
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