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# CANCER REGISTRY IN THE SUDAN

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## 1. Historical Note

Registration of cancer biopsies has been performed in the Sudan since 1935. Hickey, in 1958, published a review of malignant epithelial tumours in the Sudan based on biopsy material collected during the period 1935-1956. Skin and breast cancer had the highest incidence reported, sarcoma and lymphomas were not included at the time because, according to Hickey, they were rare and usually presented as advanced cases not amenable to surgery. Biopsy for histopathological specimens was established in 1954. This has been functioning simultaneously in the Pathology Department of the Stack Medical Research Laboratories of the Ministry of Health and the Pathology Department of the Faculty of Medicine. These two laboratories generally complement each other; several papers on cancer incidence have been published by them. In 1966, they were amalgamated to form the Sudan Cancer Register.

The opening of the Radiation and Isotopes Centre in 1967 has augmented cancer registration tremendously. For the first time, some measure of treatment has been provided for a large number of surgically inoperable cases. Interest in cancer has increased greatly since then, evidenced by the sharp increase of cancer biopsies received by the Sudan Cancer Registry.

## 2. Sudan Cancer Registry

The embryo Sudan Cancer Registry as mentioned above started by the joint effort of the then Stack Medical Research Laboratories of the Ministry of Health and the Department of Pathology of the Faculty of Medicine, University of Khartoum. The International Agency for Research on Cancer has given financial aid to cancer registration in the Sudan.

The main purpose of registration is to compare the frequency of specific types of cancer in the Sudan with other parts of the world. The Sudan is of particular interest in the study of cancer in Africa, because of the great contrasts in social customs, genetic background and physical environment that exist within the country. There are thus wide pathological differences between the Sudan and its neighbouring countries and even between the various parts of the Sudan which differ widely in these aspects.

Cancer registration in the Sudan has been planned on two levels:

(a) An incidence study of cancer in a certain area (Omdurman) in which the number of cases occuring in men and women of different ages were looked at relative to the total population.

(b) A ratio study of cancer frequency throughout the country in which the type of tumour is expressed simply as a percentage of all tumours diagnosed.

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Table I shows the number of Cancer cases reported yearly to the Sudan Cancer Registry in the last five years.

TABLE I

| Year | Number of Cancer cases reported |
|---|---|
| 1970 | 1 062 |
| 1971 | 960 |
| 1972 | 1 083 |
| 1973 | 1 094 |
| 1974 | 1 125 |
| Total ..... | 5 324 |

All these cases were diagnosed on histopathological biopsy material.

Table II shows the commonest malignant tumours in the Sudan according to disease and sex as shownin the Sudan Cancer Registry.

TABLE II

| Male | Female |
|---|---|
| Nasopharynx | Breast |
| Lymphomas | Cervix |
| Genito-Urinary System | Body, Uterus |
| Skin | Ovary |
| Soft tissue sarcoma | |
| Gingiva | |
| Bone | |

3. Cancer detection

Before the establishment of the cancer registry and the development of the pathological departments in the Ministry of Health and the Faculty of Medicine, cancer diagnosis was based on clinical grounds. Most of the cases seen then were very advanced. This is particularly so of deep-seated malignancies e.g. carcinoma of the cervix, ovary or retro-peritoneal sarcoma.

An aid to diagnosis has been radiological examination which was in common use for quite a large time.

The older hospitals in the country have a qualified radiologist and are fairly well equipped with diagnostic machines. With the expansion in the medical services in the country, and establishment of new hospitals, it was found difficult to provide such qualified persons so that many new hospitals have radiographers only.

Histopathological confirmation of cancer came into being recently and is well carried out in both the pathological departments of the Ministry of Health and the Faculty of Medicine.

Nuclear Medicine was introduced in the Sudan in 1964 as a diagnostic measure in certain cancers prevalent in the country. This is particularly useful in cases of carcinoma of the thyroid, haepatoma, hypernephromas and cerebral tumours.

Early detection of cancer in situ is lacking in the Sudan. So far there have been no attempts to provide any methods of early detection of cancer in the cervix uteri or augment any health education programmes for periodic examination of the breast in the females. No mass screen survey is done for early detection of cancer of the lung.

## 4. Epidemiology

There are as yet no published epidemiological data about cancer in the Sudan. About one thousand cases are reported and diagnosed yearly from specimens sent from all over the country. This shows that there is definite pre-dominence of certain types of cancer in certain parts of the country. The Shaigia in the Northern parts of the country with their unique ways of living and diet show high incidence of cancer of the breast; in the area West of Darfore carcinoma of the pharynx and in the south Burkitts lymphoma are frequent. The Sudan will probably be the best country to show epidemiological differences in cancer distribution in the Region.

## 5. Cancer prevention

Prevention could be more effective than treatment, but cancer prevention in a country such as the Sudan could be a very large and expensive project. There are as yet no specific measures for cancer prevention in the country. Eradication of the incidence of certain known precancerous factors could well attribute to cancer prevention. This applies to prevention of schistosomiasis in the Gezira area in order to lessen bladder cancer; educating people about mouth hygiene andthe dangers of the habit of 'snuffing' would lessen mouth cancer. Cancer prevention could be directed also to lessening skin cancer and cancer of the lung through educative programmes about the danger of sun exposure and smoking. Burkitts lymphoma in the South is a unique example where success of prevention programmes is possible.

## 6. Cancer treatment in the Sudan

### 6.1 Surgery

Surgery was the only method of treatment for cancer patients before 1967. This implies total exeision of the primary lesion if operable, to be followed by repeated excision of the secondary nodes whenever they arise. All the provincial hospitals are provided with qualified surgeons and well-equipped theatres. Cancer biopsies are mostly sent to the Sudan Cancer Registry.

### 6.2 Radiotherapy

In 1967, the Radiation and Isotopes Centre in Khartoum started using X-rays and Gamma-rays for the treatment of cancers.

### 6.3 Chemotherapy

Is well utilized employing all the cytostatic drugs available for treatment of cancer.

### 6.4 Hormone therapy

Hormone therapy is also finding its way into cancer treatment in the Sudan.

## 7. The Radiation and Isotopes Centre

Data are presented in paper EM/MTG.REG.ADV.PNL.CAN./4 (e)