CANCER: WHY ARE WE SO HELPLESS?

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SUMMARY

Although my research activities during the past two decades had spanned the areas of mechanical difficulties in labour, birth regulation and social obstetrics, among others, it is to the topic of cancer, especially of the female reproductive organs that I propose to speak at this inaugural lecture. This choice is informed by the fact that cancer is one of my research interests and also my anxiety to explain why death from cancer is frequently inevitable, especially under conditions of extreme deprivation and socio-economic hardship such as is commonly present in developing countries.

Our present knowledge of what cancer really is and the factors that lead to its formation is incomplete and so the current use of surgery, drugs and radiation to treat cancers, remains unsatisfactory. In developing countries, the outlook for patients suffering from cancer is worsened by those who arrive with advanced cancers to health institutions with grossly inadequate infrastructural and organisational arrangements to treat such cancers.

Since more than 50% of Nigeria's oil and gas exploratory activities currently take place in Port Harcourt and its environs with a resultant high pollution effect, and considering the opulent contribution these exploratory activities make to Nigeria's economy, I recommend that a Cancer institute with an Affiliated Cancer Hospital be established in Port Harcourt by the Federal Government to initiate and co-ordinate all aspects of work on cancer in the country. In the interim, rich philanthropists within and outside Port Harcourt are invited to endow a Cancer Research Fund at the College of Health Sciences, University of Port Harcourt to be administered by a Board of Trustees.

Mr. Vice-Chancellor,
Deputy Vice-Chancellor,
Provost, College of Health Sciences,
Chief Medical Director, University of Port Harcourt Teaching Hospital,
Registrar and other Principal Officers of the University,
Deans of Faculties,
Distinguished guests of the University,

Colleagues,
Students,
Ladies and Gentlemen.

Let me lift the curtain on the day's events by stating how pleased and honoured I am to have been given this opportunity soon after my advancement to the Chair of Obstetrics and Gynaecology at the University of Port Harcourt, not only to deliver this inaugural lecture, but to be the first to do so in this magnificent building. This, I find, absolutely overwhelming.

It was in Zaria, deep in the Savannah belt of Northern Nigeria, about two decades ago, that I commenced my academic career in Obstetrics and Gynaecology. At that time, in Zaria, a high maternal and perinatal mortality, of over 10 and 70 per thousand births respectively, consequent upon all manner of obstetric complications but chiefly difficult labour and its squealed, constituted our most pressing clinical problem. Abnormal holes in the vagina and rectum known as fistulae, infertility and reproductive tract infections, horrendous consequences of difficult labour, were rife in our gynaecology ward. An interest in the problems associated with mechanical difficulties in labour became inescapable. And so, working partly in Zaria and partly at the institute of Obstetrics and Gynaecology. University of London, I was able to show that the disproportionate contribution of abnormal positions of the fetal head to difficult labour in Nigeria is due to widely prevalent contraction of the maternal pelvic bones. In the process, I produced the most detailed x-ray studies of the sizes of the Nigerian female pelvic bones ever carried out in this country.

The persuasion for the tumours also began in Zaria but the bent was in favour of the benign ones. Eventually, I published information to the effect that the relative importance in Nigeria of tumours that arise from the germ cells of the overy, is due to a younger population of women as compared to their Caucasian counterparts.

In Port Harcourt, my priority, due to the prevailing circumstances, shifted to studies on birth regulation and social obstetrics. Accordingly, I have,

through several publications drawn world attention to the fact that to obtain genuine improvement in the obstetric performance of women in developing countries, modernization in obstetric services must go hand in hand with efforts aimed at improving the lot of the people – their education, health, feeding and housing.

Mr. Vice-Chancellor, any of these areas of interests could have been amplified to form the basis of today's lecture but it is to the topic of malignant tumour disease, cancer, especially of the female reproductive organs, that I have opted to speak not only because it is one of my research interests, but also because of my experiences with the gynaecological cancers. Whereas my encounter with the art of assisting mothers in pregnancy and labour to ensure a happy outcome for mother and baby has been largely gratifying, apart from experiences of a few cases of devastating catastrophies, I cannot say the same about my efforts at looking after women with cancer.

Many a time, I have found myself unable to positively influence the outcome of their diseases to any great extent. More often, I have found it necessary to explain to bewildered relatives that the situation was hopeless and that their loved ones many not live. Why is this so, we so often helpless in the face of cancer?

Although returns to the statistics department of the Federal Ministry of Health indicate that cancers form less than 2% of hospital admissions in the country, the information certainly is an under representation of the magnitude of the problem as even in our hospital in Port Harcourt many prefer to take their relatives with advanced cancers home once a realistic prognosis has been offered. Additionally, as current efforts aimed at reduction in mortality and morbidity from communicable and other diseases: the expanded programme on immunization, oral rehydration therapy, the road safety corp, activities and the safe motherhood initiative, to mention but a few, continue to yield expected results, life expectancy will rise in Nigeria. Cancer may become more visible and may constitute public health problem of serious import.

I propose, therefore, to examine in this lecture, why death from cancer is frequently inevitable, especially under conditions of extreme deprivation and socio-economic hardship. In doing so, I shall draw from my personal experience and research work, records kept at the department of Obstetrics and Gynaecology of this University and the Cancer Registry at the University College Hospital, Ibadan, which was established in 1960. The lecture will commence with an account of the epidemiology of common cancers especially those that arise from the female reproductive organs. Next, I will discuss the reasons why results of the treatment of patients with cancer are so often poor, highlighting in the process, the situation in Port Harcourt. Finally, I will suggest remedial measures and conclude with appropriate acknowledgement.

EPIDEMIOLOGY OF COMMON CANCERS ESPECIALLY THOSE THAT ARISE FROM FEMALE REPRODUCTIVE ORGANS

Several aspects of the study of cancer are fascinating but let us for now examine the geographical distribution and predilection for age and sex of some commonly occurring cancers (fig.). In general, cancers arising from the lungs and rectum which are major killers in Europe and America are not as common in tropical Africa where cancers from the liver and neck of the womb (cervix) occur more frequently. Cancer of the penis is common in East Africa but rare in West Africa while in Nigeria; primary liver cancer is commoner in Borno emirate than in any other part of the country.

With respect to age, although cancer can develop at any age, its risk increases with age. However, some cancers are found almost exclusively in the young. Burkitt's Lymphoma, a cancer that affects mainly the jaw bones, is almost unknown after the age of 15, the peak incidence being between 4 and 8 years.

Regarding sex, cancer from the female reproductive organs occurs with greater frequency than those from the male reproductive organs. On the other hand, cancer of the stomach is more a disease of males than females.

For the greater part of this lecture I shall confine my presentation to those cancers that arise from female reproductive organs, including the accessory ones: breast, vulva, cervix, the body of the womb (uterus), and the ovary. These cancers combined, represent the largest group of cancers that cause death among women. In England and Wales about 21% of all female deaths are from cancers and these deaths are attributable mainly to breasts, ovarian or cancers from the womb. Chorio-cancer, a cancer that arises from peculiar cells produced in pregnancy called the trophoblasts, will be given a special attention since it is one cancer whose treatment is often, universally, successful. Vaginal and fallopian tube cancers will not be treated as these are generally rare everywhere, and do not pose any serious public health problems.

Records from our department and those from several other parts of Africa, including those from the cancer register at Ibadan, confirm that cancer of the cervix is the commonest cancer of the female reproductive organs in Africa affecting women usually between 40 and 70 years of age. Now relatively uncommon in most developed countries where it represents under ten percent of cancers of the reproductive organs, cervical cancer constitutes up to 60% in most published data, of female reproductive organ cancers in some parts of Africa. Risk factors include early onset of sexual intercourse within or outside marriage, multiple sexual partners, promiscuity and the bearing of many children. Abnormal vaginal bleeding, with or without a blood stained, foul smelling vaginal discharge, is the chief complaint. It may also manifest as bleeding following sexual intercourse or reoccurrence of bleeding after the menopause.

Breast cancer, next only to cancer of the cervix in its frequency in Africa, is however not as common here as in Europe and America. Most of the patients are over the age of 30 and 60 years and painless swelling in the breast is the commonest mode of presentation. In some cases the nipple of the affected breast may retract and a blood stained discharge may flow from it while in very advanced cases, the affected breast may be bigger than the normal one and may even ulcerate. There is some evidence that woman who have had many children and had breast-fed them may be relatively immune from this disease.

Cancer of the ovary which is now the commonest cancer of the female genital tract in most developed countries, is not uncommon in Nigeria. On account of its quiet, often deceptive and insidious onset, this cancer has been called “the silent killer”. Within any country, incidence rates rise with level of sophistication. Risk factors include strong family history of the disease, poor reproductive performance, blood group A and late menopause.

Cancer of the uterus which is the commonest cancer in the female pelvis in the United States of America is rare in Nigeria. It occurs in an older age group of women (median age is 60) who have had their menopause; and so, the most frequent complaint is reoccurrence of vaginal bleeding after the menopause. Afflicted woman are often fat and characteristically, either have had no delivery or very few. In addition, they may be hypertensive and diabetic.

Cancer of the vulva (the external genital apparatus) is rare in most countries and most commonly occurs after the menopause in Europe as opposed to black Africa, where women of childbearing age are not necessarily immune from it. Attention is drawn to the presence of the disease by an ulcer or noddle on the vulva. Risk factors include factors that being about a chronic itch of the vulva.

Chorio-cancer may arises following any type of pregnancy but most commonly does so after a peculiar pathological pregnancy known as hydatidiform mole in which a fetus is absent and the pregnancy sac is converted into fluid filled grape-like vesicles. Although much more common in some parts of south-east Asia, this cancer also accurs with relatively high frequency in Nigeria. Its qualification for special attention here, stems from the fact that the cancer responds well to drugs and several cases have been successfully treated in Nigeria, in women who have then gone on to have children.

OVERALL OUTLOOK FOR CANCER PATIENTS

Our predicament with cancer arises from the fact that once an accurate diagnosis of this disease has been made, what follows in most cases is a chronic debilitating ill health culminating usually in death. According to the office of population censuses and surveys in London, 75% of all persons in whom ovarian cancer is diagnosed, will die from the disease within 5 years of the diagnosis, resulting in the death of about 3,700 persons annually in England and Wales alone from ovarian cancer. Although patients with cancers of the breast and uterus have a slightly better 5-years survival rate, the overall picture is not very different and this is in England and Wales where conditions for diagnosis and treatment of these cancers are near optimum. In many developing countries, Nigeria inclusive, where living conditions are harsh and there is large scale deprivation, the outlook for cancer patients is gloomier than sated above, Therefore, although correct records hardly exist in any developing country, corresponding 5-year survival rates for all cancers are generally believed to be worse than what obtains in developed countries.

To appreciate why this is so, there is a need to examine three key areas of oncology (study of cancer): The origin of cancer; factors that affect prognosis in cancer and current methods of treatment available to cancer patients.

THE ORIGIN OF CANCER

Several theories have been propounded to elucidate the origin of cancer but for the purpose of this lecture we will briefly consider only two of such theories: the theory of abnormal cell growth and replication and that of fetoplasia and fetoplasm.

The theory of abnormal cell growth and replication presupposes that cancer begins when a single cell in an organ escapes from normal cellular growth regulatory mechanisms and multiplies in an autonomous and uncontrolled manner with no physiological value. Because the cell does, so rapidly, it soon loses the specificity of its sister cells, structurally and functionally. Although several substances (carcinogens) are known to be

associated with this cancerous process, the exact trigger that initiates the escape from normal growth regulatory mechanism is not fully understood.

Another theory, that of fetoplasia and fetoplasm suggests that cancer cells are "normal" cells formed in an attempt to repair a damage caused by prolonged and frequently repeated injuries by carcinogens(agents that possess the ability to damage a cell), at the same site of a tissue. The new cells so formed being younger than the parent ones from which they had arisen are closer to fatal cells in structure and lack of functional specificity. The process of carcinogenesis is therefore a healing response to repeated damages from noxious agents. In short, cancer is a scar tissue.

Either way, if left unchecked, this new growth inevitably leads to death by one or a combination of methods, not in the least is the destruction of tissues and organs vital for the survival of the individual.

Prognostic indices in Cancer

It is true that the outcome of any disease, cancer inclusive, will depend to some extent on the pre-morbid state of the individual and the general level of available support. However, in cancer, the most important prognostic index is the stage of the disease at the time of discovery. So, cancer can be discovered very early, early, late or very late. In the early stages, the disease is reasonably confined to the organ from which it arises while in the late stages, spread within and outside the organ has occurred.

In general, the earlier a cancer is discovered the better the outcome and conversely, the later, the worse the outcome.

There is another stage that deserves mentioning. The "in-situ" stage. This stage of the disease predates the "very early" stage and is one in which the patient neither has complaints nor obvious manifestations of the disease. Its diagnosis therefore is by means other than ordinary, which are based on patient's complaints and findings on clinical examinations.

Current Treatment Methods

There are three methods, currently available, which can be used to treat cancers either singly or in combinations. These are surgery, ionizing irradiation or drugs, along with immunotherapy.

The aim of surgery, which was for centuries the only method of treatment, is to remove the cancer and all areas to which it has spread, as completely as possible. Cancer surgery is usually extensive and sometimes difficult and mutilative; yet it is often incomplete as the disease has destroyed tissue planes utilized by surgeons during normal operations. Jeffcoate, that sage from Liverpool England, once described surgery in cancer as:

"A macroscopic dissection of a microscopic lesion".

Surgery is useful in the early stages where it may even effect a cure but of little value in the advanced stages of the disease.

Various forms of ionizing radiation can be used to arrest cell division and destroy cell. X-rays from orthovoltage X-ray machines, and radiation from radioisotopes like radium, cobalt 60, and cesium 137 may be used. Not all cancers are sensitive to these rays and like surgery, their effects are better when the cancer is early. The treatment may not only be expensive to set up but in addition requires the presence of persons with special training in this field of medical science. It is therefore not available in many hospitals. For example, in Nigeria, only the University College Hospital, Ibadan and Lagos University Teaching Hospital have reasonable facilities for utilizing this method of treatment.

The use of drugs for the treatment of cancer is a relatively new development. Such drugs are known as cytotoxic drugs and they are curative in a number of cancers. Unfortunately they are expensive, require expert handling and for these reasons, many hospitals do not stock them in any appreciable amount in Nigeria.

With this background information, we are now in a position to examine why the results of treatment of patients with cancer are so often, unsatisfactory.

Clearly, the most important factor is our incomplete understanding of what initiates cancer and what cancer really is, if cancer is caused by a single cell in an organ escaping from normal cellular control of growth and replication, then, it is to that process that measures aimed at cure should be directed. These measures should act at the cellular level and should compel the recalcitrant cell to go back to a rational behaviour. On the other hand, if cancer is scar tissue, then our efforts should aim at evoking the normal mechanisms by which the body is able to remove redundant scar tissue formed in response to other types of injuries. It is because of this lack of concrete understanding that treatment modalities currently available do not satisfactorily address all aspects of cancer as a disease. However, under ideal situations where living conditions are good for the population at large and when the disease is identified early, the current treatments are reasonably effective in arresting and sometimes bringing about a "cure" (or shall we say long term remission) of the disease. The converse is true when the disease is advanced and large number of cancer cells would have to be eliminated.

Again, a special comment needs to be made of the "In-situ" stage of the disease. At this stage all cancers are curable and usually with treatment methods for easier and less expensive than those for conventional cancer therapy.

The Situation in Port Harcourt

Coming home to Port Harcourt and its environs, the seat of our University, we find that cervical cancer is the commonest cancer suffered by females, in this environment. Between 1980 and 1990, it formed about 50% of all female cancers at the University of Port Harcourt Teaching Hospital (Table).

Of these, only 10% presented with the early stages of the disease and as such could benefit from surgical intervention. So, as far as surgery was

concerned, we were helpless because we are unable to offer it as a treatment for the overwhelming majority of patients who reported with the late stages of the disease.

As for radiotherapy, on account of constraints imposed by lack of adequate finance and trained personnel, this method of treatment is not yet available. But were the situation to be otherwise and erratic electricity which characterizes power supply in Port Harcourt will ensure an early demise of the radiotherapy machine.

What of Chemotherapy? Here, although it is true that cervical cancer responds poorly to drugs, only a small fraction of the budget of the pharmacy department (exclusive of salaries) is spent on the purchase of anti-cancer drugs. Out of a total of N3,576,507 spent on the purchase of drugs in 1988 and 1989 only a paltry N10,833.50 was spent on anti-cancer drugs, the bulk of the money having gone into purchase of consumables needed to service a crushing load of preventable infective disorders, in accordance with the dictates of priority.

Therefore for about 90% of women who come to our hospital with cervical cancer, treatment remains unsatisfactory and this unfortunate position obtains in most hospitals in many developing countries.

This is indeed a pathetically helpless situation.

REMEDY

Although research concerned with defining patterns of cancer in various organs and locations are being carried out in Nigeria, these efforts should be intensified and coordinated. The Role of Cancer Research institutes found in developed countries needs to be emulated.

Prevention

On account of the interest cancer has generated all over the world, a large volume of information now exists on certain life styles and jobs that are associated with cancers. For example, by keeping away completely from tobacco use, one can reduce by 80%, one's chances of ever having lung

cancer. Since it will be infinitely better to prevent cancer than to treat it, more of these agents and changes in life styles associated with cancers should be indentified and such information disseminated widely.

Early Detection

The point was made earlier that all cancers detected at the "in-situ" stage are curable and so are some detected in the early stages. The ideal situation therefore will be to identify cancer either at the "in-situ" or early stage. In most developed countries, this has been achieved by screening the population for common cancers especially those arising from breasts, cervix and lungs. In an attempt to cut down on the hug expenses incurred by the company in medical bills of its employees with advanced breast cancers (about 100,000 US dollars per patient), the Cable News Network (CNN) announced in its news coverage on Tuesday 3 December, 1991 that a large American Employer of Labour, the ICI has now installed facilities for radiological screening (mammography) of its female staff within the company's premises. In addition to such sophisticated screening methods, women can be taught how to examine their own breasts themselves in order to identify lumps or nipple discharge early.

Screening for cancer of the cervix is commonly done by the popular "Pap Smear" which derives its name from that of PAPANICOLOU, an American of Greek extraction. The procedure is based on the fact that before the overt signs of cancer, most cancerous tissues shed cells with characteristics of cancer. This is the stage of the disease described as "in-situ" and if recognised, treatment is simple and curative. Convincing evidence has emerged from the Scandinavian countries (Finland, Ice-land, Denmark and Sweden) of the efficacy of this procedure in reducing mortalities from cancer of the cervix. It is now estimated that the risk of developing an invasive cancer of the cervix is reduced by some 80% if a woman is screened every 3-5 years.

In Nigeria, no mass screening exists for breast or cervical cancers. This is a pity since these two cancers are so common and between them are responsible for over 70% of cancer deaths in women. However, the

platform for initiating these screening exercises now exists in the country and so; every effort should be made to seize the opportunity. The Primary Health Care, currently the pillar on which the nation's health care delivery system is rested, aims at bringing medical care to the door steps of the citizens where they live and work. Health posts have accordingly been established within walking distance of all communities and to my mind, these can serve as screening points, to be backed by good referral systems.

Cancer Education

In a survey carried out on 200 randomly selected inhabitants of Port Harcourt metropolis by our department a few weeks ago to find out people's knowledge of an attitude towards cancer, although 87% of the surveyed population had heard of cancer, as many as 62% had little or no idea about it. Fifty-three percent felt cancer was not treatable in Nigeria and about 50% confirmed they would raise money to travel abroad if they were told they had cancer. A lot therefore needs to be done to properly educate our citizens on cancer and its problems. In this respect some commendation must go to the Nigerian Cancer Society for its public enlightenment campaigns since its inauguration on 6th December, 1969. The society is making some progress in educating men and women on common cancers in Nigeria, using the various media: electronic, print and others. Cancer education should be stepped up in the country by various organisations: Ministries of Health, Women Societies, Philanthropic organizations: MAMSER, National Commission for Women, etc. so as to sensitize the citizens on prevention and early symptoms of the disease.

Strengthening Existing Hospital

Existing hospitals in the country need to be strengthened to provide good referral systems so that an accurate diagnosis of some of the cancer cases that present to them can be made at the apex hospitals. The situation in which most hospitals have no histopathology services and no doctor above the level of medical officer is unsatisfactory.

MY DREAMS FOR PORT HARCOURT

A few years ago, the Federal Government of Nigeria designated some teaching hospitals in the country "Centres of Excellency" and inter alia, labelled the Ahmadu Bello University Hospital, Zaria, a centre of excellence for the treatment of malignant diseases (cancer cases). This is laudable but to my mind, it is not enough. And so, Mr. Vice-Chancellor, I want to suggest that the time has come for us as a nation to take cancer more seriously than had been the case hitherto and that we should do so by investing this responsibility in a proper Cancer Institute with an Affiliate Cancer Hospital. Judging from its strategic geographical location, historical eminence, industrial importance and opulent contribution to the national economy, I wish to suggest, ladies and gentlemen, that Port Harcourt be chosen to fulfil these functions since more than 50% of Nigeria's oil and Gas exploratory activities take place in this city and its environs.

This idea of forming specialised health institutions to deal with peculiar problems of specific disorders is not new, even in Nigeria. Let us call to memory the national Eye Hospital in Kaduna, the National Orthopaedic Hospitals in Lagos, Kano and Enugu: not forgetting the Psychiatric Hospitals in Port Harcourt, Lagos, Aro-Abeokuta and Benin City.

A cancer institute and its hospital in Port Harcourt will attract to itself men and women of expectational ability interested in all aspects of cancer work: Research, Treatment, Rehabilitation, etc. It will take urgent steps to institute a national screening exercise for the early detection and treatment of cases of common cancers using the platform of the already established Primary Health Care system and monitor patterns and incidence of cancers in this highly polluted environment. Since several persons in this University are interested in cancer as a field of research, let me, as a prelude to bringing this grand design to fruition, invite rich philanthropists within and outside Port Harcourt, to establish a Cancer Research Fund in our College of Health Sciences, to be administered by a Board of Trustees.

These are dreams but let us not lose sight of the fact that some dreams get translated into realities.

CONCLUSION

In bringing down the curtain on this lecture, ladies and gentlemen, let me recall those who have contributed in no small way to my profound fulfilment in life which has given expression to today's events: my parents, especially my mother, my God-sent and revered step father, my wife and children, close friends and well wishers. Among my teachers, two, both of blessed memories: Horatia Oritesejolomi Thomas, (1917-1978) and Wilfred George Mills (1915-1988) taught me that in all fields of human endeavour, success is inevitable once you identify a goal and work assiduously towards its achievement.

Finally, Mr. Chairman, by now it must be obvious to all present that our current state of quandary with cancer arises from the fact that we are as yet unable to understand completely, what cancer is and the factors that initiate its formation and so, we cannot, as of now, evolve satisfactory treatments to all cases of cancer. In the developing world, the situation is worsened by patients who arrive with advanced cancers to health institutions with grossly inadequate infrastructural and organizational arrangements to treat such cancers.

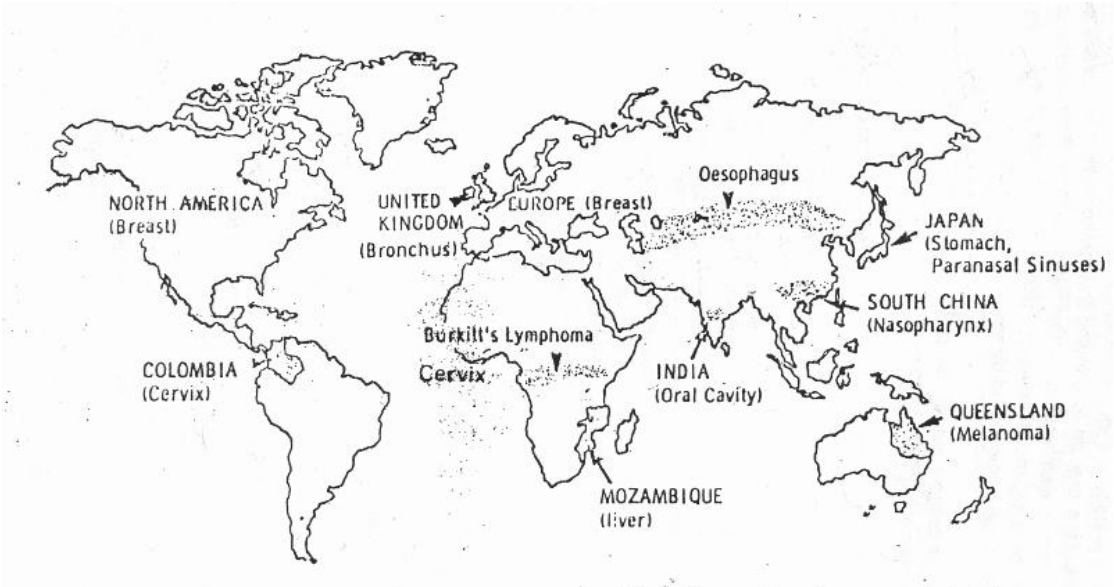
However, I must not end on such a hopeless note of utter despair. Fifty years ago in the United Kingdom, the diagnosis of cancer almost certainly meant early death. Today in that country, over 90,000 cancer patients recover from the disease every year. Let us.

"Keep hope alive"
By expecting that also in our country
"even this shall come to pass".
I thank you for your presence and attention.

TABLE

MALIGNANT DISEASE OF THE FEMALE REPRODUCTIVE ORGANS AT THE UNVIERSITY OF PORT HARCOURT TEACHING HOSPITAL, 1981 - 1990

Site	Number	%
Vulva	12	4.9
Vagina	0	
Cervix	120	49.0
Uterus	16	6.5
Fallopian tube	0	
Ovary	20	8.2
MTD	25	10.3
Breast	52	21.1
	245	100



World map showing areas where a very high incidence of certain tumours is found.