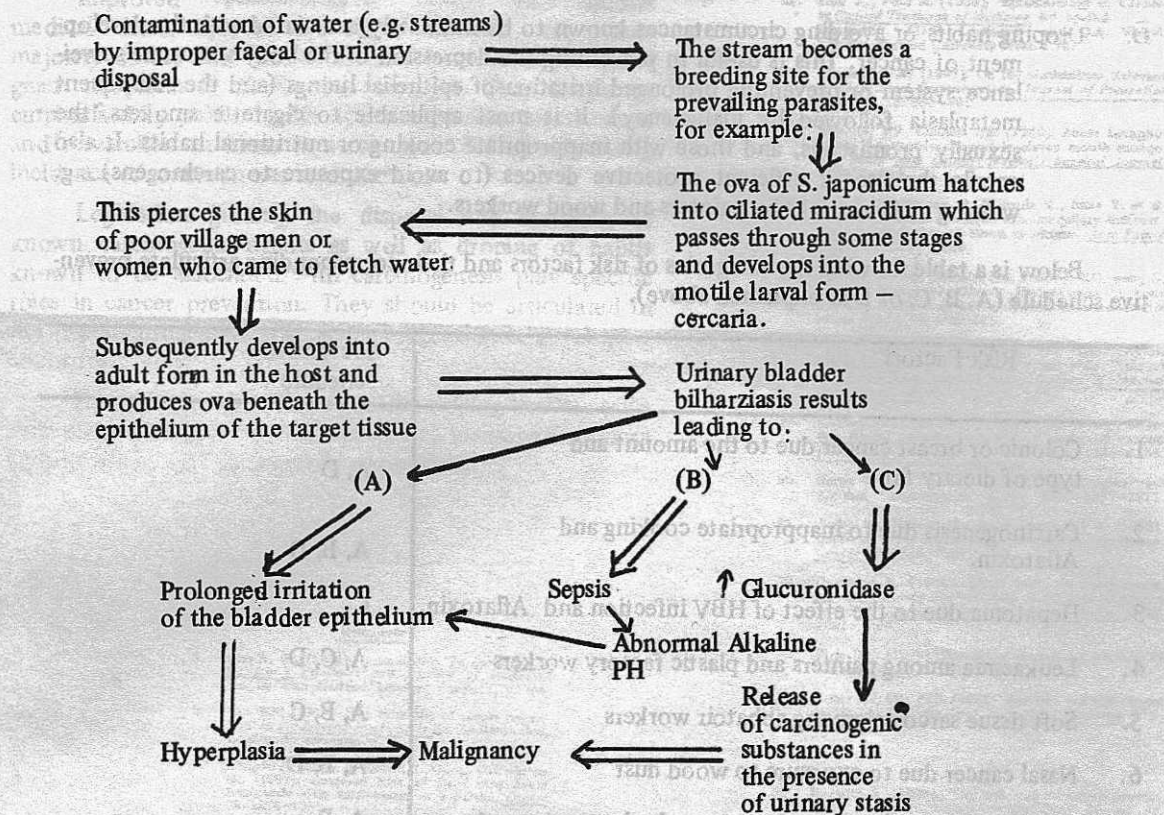


Fig. 6 (Poor environmental sanitation and carcinogenesis using urinary bilharziasis as an example)



Roe⁵² made a detailed enunciation of the principles of cancer prevention. The aspects of these principles feasible (based on affordable technology) in developing countries, like Nigeria, include

- (1) Assessment of cancer risks in individuals and populations by developing predictors of high and low risk.
- (2) Counteracting the carcinogenicity of external agents.
- (3) Elucidating determinants of differences in susceptibility to cancer.
- (4) Identification and elimination of precancerous lesions.
- (5) Enhancement of the effectiveness of immune response.

The above will invariably call for:

- A. Improved epidemiological survey in respect to all identified cases of cancer in any environment. This will be useful in elucidating the determinants of differences in susceptibility to cancer (e.g. why is X specifically more susceptible to cancer than Y despite similarity of birth and environment?) It will also help in the assessment of cancer risks in individuals and populations. All these can lead to a more targeted preventive measure.
- B. Routine medical examination or check-ups for the groups most at risk, followed by prompt medical intervention. This is needed for the identifications and elimination of precancerous lesions. Medical check-ups could also afford avenue for identifying individuals that need an enhanced immune response to beef up their immune surveillance system and prevent clinical cancer. Routine medical check-ups is thus very vital in reducing the morbidity and mortality from cancer.
- C. Legislation guiding the disposal and handling of materials known to be carcinogenic. This will be useful in counteracting the carcinogenicity of external agents (such as styrene in plastic factory workers, tobacco tar from smoking cigarettes, intense electromagnetic fields across high tension wires, etc). Also important, is legislation regulating food and drug administration (i.e. proper screening of foods/drugs prior to their use as well as

ensuring that drugs are administered by proper personnel — this could reduce the abuse of parenteral injections in some communities).

- D. Dropping habits or avoiding circumstances known to be intimately associated with the development of cancer. This is useful in preventing the depression of the body's immune surveillance system or preventing prolonged irritation of epithelial linings (and the subsequent metaplasia followed by malignancy). It is most applicable to cigarette smokers, the sexually promiscuous, and those with inappropriate cooking or nutritional habits. It also entails the use of efficient protective devices (to avoid exposure to carcinogens) e.g. wearing of face masks by painters and wood workers.

Below is a table showing the categories of risk factors and their corresponding articulate preventive schedule (A, B, C, or D as explained above).

Risk Factors	Preventive schedule
1. Colonic or breast cancer due to the amount and type of dietary fat.	A, D
2. Carcinogenesis due to inappropriate cooking and Aflatoxin.	A, B, D
3. Hepatoma due to the effect of HBV infection and Aflatoxin.	C
4. Leukaemia among painters and plastic factory workers	A, C, D
5. Soft tissue sarcoma among abattoir workers	A, B, C
6. Nasal cancer due to exposure to wood dust	A, B, D
7. Neuroblastoma in children born to male electronic workers.	A, B
8. Megakaryoblastic leukaemia in Down's syndrome patients	A, B
9. Testicular cancer in patients with undescended testis	A, B
10. Malignant Fibrous Histiocytoma in patients with sickle cell trait and alcohol abuse	A, B, D
11. Breast cancer in patients with a positive family history.	A, B
12. Extra-gonadal cerebral germinoma in klinefelter's syndrome patients.	A, B
13. Neoplasms and smoking (passive or active)	C, D
14. Skin cancers and exposure to intense U.V. rays from the sun	A, B, D
15. Neoplasms in patients exposed to therapeutic irradiations	B, C
16. Neoplasms due to surgical iatrogenic factors	B, C, D
17. Neoplasms due to exogenous estrogens and other drugs.	A, B, D
18. Genital tract cancers due to sexual promiscuity	B, D
19. Neoplasms due to poor environmental sanitation	A, B, C, D
20. Leukaemia among those exposed to intense electromagnetic waves	A, C

Preventive Schedule	No. of Risk Factors Applicable	Percentage of Applicability
A	15	30.6%
B	15	30.6%
C	8	16.3%
D	11	22.5%

Conclusion

Improved epidemiological survey and routine medical check-ups, as preventive schedule, cut across majority of the risk factors for the development of malignant neoplasm in developing countries. They should be emphasised by public health officials, medical practitioners and researchers in order to stem down the already rising incidence of cancer in our environment.

Legislation guiding the disposal and handling of known carcinogenic agents as well as dropping of habits known to be associated with carcinogenesis play specific roles in cancer prevention. They should be articulated in the overall programme of cancer prevention in developing countries.

Hence, although the risk of developing cancer seems very encompassing, it is still possible to envisage a modern society where the risk is greatly diminished.

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Radiology of burkitt's lymphoma

— Osi Ozoh

A review of the role of radiology in the diagnosis of Burkitt's lymphoma, shows that both bone and soft tissue radiographs are important in the early detection and monitoring of the progression of the disease.

Burkitt¹ drew attention to "round cell sarcoma" tumours seen in African children at Mulago Hospital in Kampala, Uganda in 1958. These tumours whether of the bones or the viscera, are histologically identical and are malignant lymphomas²

Epidemiology:

Epidemiological studies by Burkitt³, showed the distribution of patients suffering from this disease to be related to humidity, temperature and altitude, and this led to the suggestion that the tumour might be virus induced. Epstein et al⁴ considered the Epstein-Barr virus to be the causative agent, while Bell,⁵ suggested a reovirus, type 3.

Pathology: According to Walter and Israel⁶ histologically Burkitt's lymphoma resembles other diffuse lymphocytic lymphomata, with numerous Pale - staining histiocytes among the lymphocytic cells producing a "starry-sky" appearance, although this is not pathognomonic since this is also seen in some cases of lymphomata that do not fall into the category of Burkitt's tumour.

Clinical Features: It is found in children aged 2 to 14 years with peak incidence between the ages of 5 and 9 (Whittaker,⁷ Burkitt³). Burkitt¹ stated that males are involved twice as often as females. The presenting complaints include in descending order of importance, swelling in relation to the jaws or face, abdominal mass, paraplegia, intestinal obstruction, wasting, swelling of a limb or bone pain, pathological fracture, proptosis and blindness⁸.

Radiology

Skeletal Lesions

Mandible and Maxilla:

Most of the patients present with jaw tumours, and Cockshott⁸ found that mandibular and maxillary involvement were of equal frequency. For recognition of early cases, oblique views of the mandible and maxilla, obtained on non-screen film have proved to be of value.

The first sign, which may be difficult to detect, is the presence of minute areas of trabecular bone destruction in the mandible and maxilla, but as the process extends, the small multifocal deposits enlarge and coalesce so that definite osteolytic areas become evident and the lamina dura of many teeth are lost. As the tumours grow further, they become visible as soft tissue masses distorting the surface contour and displacing the teeth, and according to Whittaker⁷, dental displacement in the soft tissue masses as if the teeth are unsupported in space is quite characteristic of Burkitt's lymphoma.

Cockshott⁸ observed a rare finding of radiating bone spicules in the mandible suggestive of an osteosarcoma. As the disease affect children, particular attention should be paid to the integrity of the lamina dura of the germinating follicles of unerupted teeth.

Diploe of Skull: Diploic deposits are revealed in plain skull X-rays as small osteolytic lesions, and when these are associated with sutural diastasis, the presence of extradural and dural plaques of neoplastic deposits can be assumed and can be detected by cerebral angiography as displacement of the brain from the skull.

Spinal Lesions: In the opinion of O'Connor and Davies,² flaccid paraplegia as a rule is relatively sudden in onset, and is often attributed to a preceeding minor trauma. Plain X-ray of the spine may be normal, and radiographic abnormality when present include, osteolytic foci in the posterior parts of the bodies, localized collapse of part of a body, widening of the interpedicular spaces, and paravertebral mass usually extending over several spinal segments. Myelography may show displacement of subarachnoid space and cord suggestive of extradural mass or broken stick appearance of frank and complete block.

Iliac Bones: Plain Xray of the pelvis shows characteristic appearance of multiple small osteolytic lesions, while oblique projections may show layers of periosteal new bone.

Long Bones: The bones involved more often include, the tibia, femur and humerus. Multiple fine medullary foci of bone destruction are seen; these coalesce and may pierce the cortex and elevate the periosteum to mimic Ewing's tumour, a reticulum cell sarcoma, or a secondary deposit from neuroblastoma⁸. During angiographic studies Burkitt also observed that bony deposits do not show any new vessels in their tissues or neighbourhood.

Visceral Lesions

Thoracic Viscera: The findings on plain chest X-ray include, multiple discrete tumour opacities in the lung fields, paratracheal or mediastinal adenopathy, pericardial deposits with abnormal cardiac contour, and pleural effusion⁷.

Alimentary Tract: Most alimentary tract deposits are clinically "silent" and radiographic studies are not frequently requested. However, when they occur, the bowel is merely displaced and distorted by the masses, and barium studies reveal them as rounded and well demarcated filling defects suggestive of benign tumours. (Cockshott⁸). Plain abdominal Xray may suggest intraabdominal and retroperitoneal masses by indicating soft tissue shadows, and obliteration of psoas shadow.

Genital Tract: In the male, testicular swellings may occur, but in females ovarian deposits usually bilateral are frequent, shown either by pelvic pneumography as marginal irregularities of the ovaries, or as extrinsic deformity of the bladder by the Ovarian deposits during cystography³.

SURGERY

Burkitt's lymphoma — A retrospective study of cases seen at UNTH

— Nene E.N. Obianyo

216 children with Burkitt's lymphoma were admitted at the University of Nigeria Teaching Hospital, Enugu, during a 5-year period. This represented 37% of all malignancies in children admitted during the same period. The peak incidence is between 5–11 years and the commonest site is the face (jaw and orbit). 60.2% died within one year of initial diagnosis and mortality is strongly linked with the availability of cytotoxic drugs in the Country.

Introduction

Burkitt's lymphoma is a diffuse undifferentiated malignant lymphoma of the B lymphocyte origin. It is endemic in Africa and sporadic worldwide. The Epstein-Barr Virus (EBV) has been identified in the lymphoma cells of the majority of patients but proof of its direct oncogenicity in man is lacking^{1, 2}. EBV infection may induce a malignancy when there is a specific immune defect³. Endemic Burkitt's lymphoma in Africa is associated with endemic malaria. It is therefore postulated that chronic malaria induces the specific immune defect which allows the EBV infection to induce Burkitt's lymphoma. These tumours now known as Burkitt's lymphoma were described in Nigeria as far back as 1934 by Smith and Elmes⁴, but it was not until 1957 that Dennis Burkitt working in Uganda produced what is now a clinical syndrome with a pathological entity.

Material and Methods

A retrospective study is done on 216 children who were admitted to the UNTH, Enugu, with Burkitt's lymphoma between January 1976 to December 1980. The patients came from adjacent states in Eastern Nigeria, namely Anambra, Imo, Cross River, Rivers and Benue with a population of approximately 24.5 million. The data obtained included age, sex, socio-economic status, site of tumour, treatment and mortality. Patients included in this series have had their diagnosis confirmed by histopathology or necropsy.

Results

A total admission of 17,996 children was made to UNTH within the 5-year period of 1976 to 1980. 576 children had the various malignancies representing 3% of the total admission⁵. Of these, 37% (216) had Burkitt's lymphoma. 87% of the children come from rural areas and were of low socio-economic status. 68% had received initial or repeated therapy from traditional healers. There were 133 males and 83 females with a ratio of 1.6:1. It was rare in the first 2 years of life but common between 5–11 years (Fig. 1). The commonest site was the face

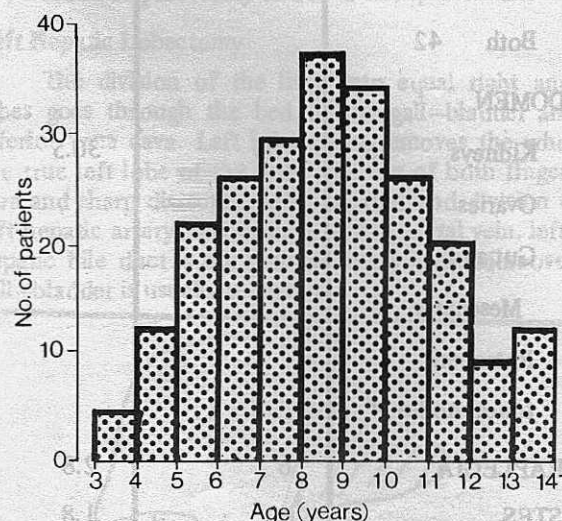


Fig. 1: Age Incidence Histogram

(jaw and orbit) Fig. 2, and this was seen in 61% of cases (Table 1) followed by the kidneys, ovaries, testes, breasts and thyroid in that order. Paraplegia was seen in 6 children and this presented as flaccid paralysis with double incontinence of rapid onset. There was no clinical nor radiological evidence of vertebral collapse. The treatment was either cytotoxic therapy alone or in combination with surgery. The main cytotoxic agent used was cyclophosphamide but in 60% of patients the COPP combination therapy was used Fig. 3 (C = Cyclophosphamide, O = Oncovin or Vincristine, P = Procarbazine, P = Prednisone). When recurrence occurred, the patients were treated with methotrexate or adriamycin depending on availability. 60.2% of children died within one year of initial diagnosis and this was mainly attributed to late attendance to hospital and lack of cytotoxic drugs. Most patients could not go through a rigid cycled regime as drugs were given only when available.

Discussion

Malnutrition, infection and their synergistic effects constitute the major paediatric problems in Nigeria⁶ but within the spectrum of these largely preventable diseases occur malignant diseases of children of which Burkitt's lymphoma is the commonest. Burkitt's lymphoma is a multifocal disease and surprisingly, affected children are in good general health until the disease is well advanced. Radiological features include, loss of lamina dura around unerupted teeth, multiple osteolytic lesion which coalesce as the tumour advances to form larger areas of bone absorption. Dental anarchy or deranged dentition is usually obvious clinically. The classic "starry sky" appearance on histology, considered typical of Burkitt's lymphoma, is due to a sea of malignant lymphoblasts interspersed with large mononuclear macrophages. The latter usually have a clear cytoplasm and exhibit active phagocytosis.

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Table I

Site of Burkitt's Lymphoma

		NUMBERS	%
FACE			
Jaw	72	132	61.0
Orbit	18		
Both	42		
ABDOMEN			
Kidneys	36	66	30.5
Ovaries	20		
Gut and Mesentery	6		
Retroperitoneal nodes	4		
PARAPLEGIA		6	2.8
TESTES		4	1.8
BREASTS		3	1.5
THYROID		3	1.5
SALIVARY GLAND		2	0.9
Parotid	1		
Submandibular	1		

N = 216



Fig. 2. A 7-year old child with Burkitt's lymphoma of the face (jaw and orbit)

Surgery of Burkitt's Lymphoma

Being of a multifocal nature, surgery cannot offer a cure. Surgery is indicated as follows:

- to produce specimen for histological diagnosis
- to treat infection and abscess formation especially with jaw tumours in which oral sepsis predisposes to infection and abscess formation. The treatment is incision and drainage.
- to arrest and control haemorrhage which often complicates Burkitt's tumour.



Fig. 3. Same patient as in Fig. 2 after 6 weeks on COPP regime.

- to debulk the tumour and allow for better cytotoxic management.
- to release trapped nerves or relieve neurological symptoms as in the case of laminectomy for Burkitt's paraplegia. Surgery when indicated is used in combination with cytotoxic therapy.

Cytotoxic Therapy

Cyclophosphamide is an alkylating agent. It causes inhibition of DNA replication and RNA transcription and it is considered the single treatment of choice in Burkitt's lymphoma⁶. Cyclophosphamide with oncovine, procarbazine, and prednisone in the COPP combination reduces the incidence of resistant and recurrent Burkitt's lymphoma. Methotrexate an antimetabolite is useful especially as an adjuvant therapy in recurrent cases, hence COMP is used when COPP has failed.

Mortality

Burkitt's lymphoma if uncomplicated is not morbid until it attains advanced stages. Mortality in our environment is high due to delay in attendance to hospital, intervention by traditional healers, haphazard treatment regime due to unavailability of cytotoxic drugs and lack of money as the drugs are expensive and the victims are mostly of the lower socio-economic class. The main problem of residual and recurrent Burkitt's lymphoma can be taken care of if follow-ups are rigidly observed and cytotoxic drugs freely available.

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Major hepatic resection for liver carcinoma

— Martin A.C. Aghaji

Primary liver carcinoma is one of the commonest malignant diseases seen in this subregion. The treatment of choice is complete surgical excision. Other modalities of treatment hardly ever cure the patient and results are generally disappointing. Less than 5% of patients with liver carcinoma at presentation are suitable for surgical excision. 3 cases of major hepatic resection done between 1986 and 1988 at UNTH are presented. This paper emphasizes the role of surgery in the management of patients with liver carcinoma and highlights the need for prevention, early diagnosis and prompt referral to a dedicated specialist centre. It is emphasized that concomitant cirrhosis is not a contra-indication to major hepatic resection.

Introduction

The very high prevalence of primary carcinoma of the liver in the Orient and throughout sub-Saharan Africa makes it one of the world's most common malignant diseases. The treatment of choice is surgical extirpation of the tumour with an appropriate amount of surrounding normal tissue. This usually requires a total hepatic lobectomy or sometimes even an extended hepatic lobectomy.

Keen was the first to report in the world's surgical literature a case of simple liver resection for a neoplasm in 1899. From then, liver surgery had advanced slowly until after world War II. The tremendous evolution in major liver surgery since 1950 is due to the better understanding of the anatomy, bio-physiology and pathology of the liver, improvement of surgical technique and extensive development and back-up by the support services — radiology, gastroenterology, anaesthesia, intensive care, haematology and blood transfusion services. With the current state of the art, major liver resections could be done with near-zero mortality in specialized units. It is important to stress that this type of operation should not be undertaken by an occasional liver surgeon. The bad news is that only very few patients with liver carcinoma are candidates for surgical resection since the majority of the patients present late and many patients would have tumours involving the majority of both lobes of the liver. In the period, 1986–1988, only 3 out of 38 patients with liver carcinoma had resectable tumour. It would seem, therefore, that more attention should be paid to:

- (1) Early diagnosis, and
- (2) Prevention of this dreadful disease.

Terms Defined

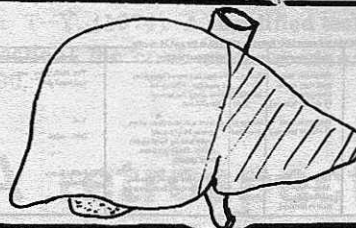
A major hepatic resection would entail

- (1) Left hepatic lobectomy,
- (2) Right hepatic lobectomy,

- (3) Extended right lobectomy (Right trisegmentectomy),
- (4) Total Hepatectomy and liver transplantation.

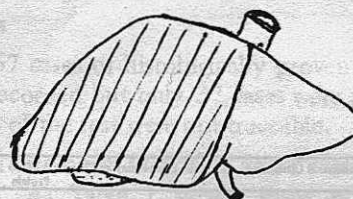
Left Hepatic Lobectomy

The division of the liver into equal right and left lobes goes through the bed of the gall-bladder and the inferior vena cava. Left lobectomy removes the whole of the true left lobe of the liver. The use of both finger fracture and sharp dissection after ligation and division of the left hepatic artery, left branch of the portal vein, left main hepatic bile duct is the practise in my unit. Moreover, the gall-bladder is usually removed.



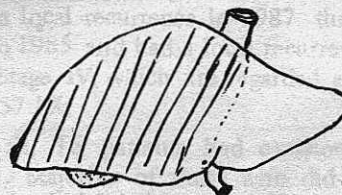
Right Hepatic Lobectomy

Here the true right lobe is resected.



Extended Right Hepatic Lobectomy

The true right hepatic lobe is removed, plus the medial segment of the left lobe. The inflow vascular and biliary connections to the medial segment of the left lobe are divided before resection.



Total Hepatectomy and Liver Transplantation

This is still experimental since patients generally need immune suppressants after liver transplantation. Patients who have had liver transplantation for liver cancer will generally have recurrence because of the immune suppressants.

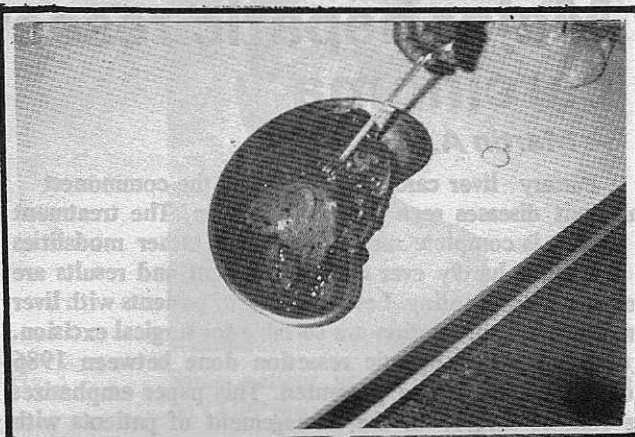
Mini-Laparotomy

This concept was introduced in the workup of these patients because of our own peculiar circumstance. The main aims of a quick mini-laparotomy under light general anaesthesia are:

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- 1/ To ascertain that the lesion is resectable – limited to a lobe or just across the division of the true right and left lobes. To ascertain the outlook of the other lobe.
- 2/ To ascertain that it is malignant, or a tumour – histology. Most of the time, histological diagnosis by needle biopsy is not established by the referring physician.
- 3/ Since blood is expensive, the patient will lose money by arranging for 8 pints of blood – only for the surgeon to go in to find that the tumour is not resectable.

operatively (50mg weekly – 6 doses with appropriate haematological monitoring).



The removed cancerous tissues – right lobe of the liver, the spleen, stomach, pancreas, and part of the colon.

Clinical Profile of Patients who had major Liver Resection at UNTH in the past 24 months						
Patient	Age	Sex	Occupation	Main Complaints	Alcohol	Past Medical History
1	54	M	FARMER	Epigastric Mass pain right hypo- chondrium. (5 month history)	No	No past history of jaundice or ascites. History of Alcoholic liver disease for several past ailments.
2	20	M	STUDENT	Epigastric mass (1 month history)	Yes	Patient was jaundiced when he was 14 years old. Treatment by local native doctor. Had injections from quacks.
3	27	M	FARMER	Epigastric mass Abdominal swelling (4 month history)	Over 200 in Bence State.	Without history of jaundice Had injections from quacks

Relevant Tests					
Patient	Prothrombin Time	Abdominal Ultrasound	Mini-Laparotomy and Biopsy & -Feto Protein	Hep B SAg	
1	18 12	Tumour left lobe of liver and spleen. Right lobe free. No ascitis	Tumour left lobe of liver Histology hepatocellular carcinoma.	Positive	Negative
2	16 12	Tumour left lobe of liver. Generalized cirrhosis.	As ultrasound report. Histology hepatocellular carcinoma/cirrhosis of liver.	Negative	Positive
3	13 12	Tumour right lobe of liver. Left lobe free. No cirrhosis.	Tumour right lobe. Histology hepatocellular carcinoma.	Positive	Negative

* + tumour involving the stomach and the distal pancreas and the mid transverse colon. No ascitis. There were no hepatic arteriograms done in these patients.

Patient No. 1

This patient was offered extended right hepatectomy, splenectomy, total gastrectomy, distal pancreatectomy and mid-colectomy. All the tumour was removed en-bloc. Reconstruction was by an end-to-end colo-colonic anastomosis, closure of the duodenum and Roux-en-Y oesophagojejunostomy. To facilitate the dissection, the laparotomy was extended to a left thoracotomy. The patient tolerated the procedure and is well with no evidence of recurrence after 21 months. He had Adriamycin post-

Patient well and fit, awaiting discharge from the hospital.

Patient No. 2

This patient had true left lobectomy. Bleeding was a problem here because of associated cirrhosis. This patient was considered for surgery primarily because of his age. He did well post-operatively and is now being followed up by our gastroenterologist and the author. He has been followed up for 15 months. Patient was given post-operative Adriamycin injections.

Patient No. 3

This patient had a straight-forward right true hepatectomy. Hypoglycaemia after surgery was a major problem. He is well and on his 4th month follow-up. Patient received post-operative chemotherapy – Adriamycin.

Discussions

3 Factors are commonly associated with primary liver cancer.

- 1/ Persistent hepatitis B infection. There is strong evidence that the hepatitis B virus is oncogenic.
- 2/ Aflatoxin is a potent hepato-carcinogen.
- 3/ Cirrhosis of the liver.

The prognosis of liver cancer is grave and patients seldom survive more than 6 months from the onset of symptoms. The tumour is radioresistant. Treatment using cytotoxic drugs including infusion into the hepatic artery does not give encouraging results. Resection offers the best chance of cure. Only very few patients present when the tumour is surgically resectable.

For success in major liver resection, one requires a surgical team experienced in major liver surgery. A dedicated support team of gastroenterologist, anaesthetists, intensive care nurses, haematologists and efficient blood transfusion services is essential. It is interesting to note that patients 1 and 3 who were Fetoprotein positive before surgery are now negative. It is estimated every 2 months of follow-up. Patient 1 was hepatitis B surface antigen positive. This may be due to blood transfusion.

The main post-operative problems are bleeding, hypoglycaemia, renal shut-down and electrolyte imbalance. Cirrhosis is no more a contra-indication to major liver resection. The decision to operate should be individualized.

It is suggested that since primary liver cancer is very common in this sub-region (and early detection and

appropriate resection offers the only hope of cure) long-term surveillance programmes should be initiated to detect by serial serum α -Fetoprotein estimation and ultrasonography in individuals with hepatitis B virus (carriers) and patients with cirrhosis. Routine liver screening should form part of a 3 year health screen for patients above the age of 20. Immunising high risk people with Hepatitis B vaccine, checking parenteral drug abuse, voiding local medications and proper control of alcohol production and sales should be highlighted.

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Cancer of the breast — A retrospective study of its management at UNTH

— Ifeoma Ezekannagha and Regina Amadi

Sixty-seven cases of cancer of the breast were treated at University of Nigeria Teaching Hospital, Enugu, in 1987. Analysis showed that the disease affected the younger age group in contrast with the finding in caucasians. Multiparae were more affected too. The most common operation performed was the radical mastectomy.

Introduction

Cancer of the breast has been submitted to various forms of surgical therapy ever since the primitive amputations of the breast carried out centuries ago. However, whenever surgeons gather together to discuss this topic, there are invariably intense differences of opinion (1). It is of interest, therefore, to review the management of patients with cancer of the breast at the University of Nigeria Teaching Hospital (UNTH) Enugu in order to clarify the circumstances surrounding the preferred mode of management.

Materials and Method

The study population consisted of all the histologically proven cases of cancer of the breast from January to December, 1987. Data was collected from the Histopathology Department and the hospital's Medical Records Department. The parameters were age, sex menopausal status, parity, stage of tumour and investigations. The method of surgical and post-operative treatment were also recorded. The Manchester staging of tumours was used. A comparison was made with data collected from literature.

Results

67 cases of histologically proven cancer of the breast were recorded but only 37 cases were analysed because the folders of the rest were not traceable.

There were 35 female and 2 male patients. a ratio of 17.5:1 As Table 1 shows, most of the patients, were below 50 years (89.2%). The youngest patient was 24 years and the oldest 75 years. Note from Table 2 that cancer of the breast occurs in a younger age group at Enugu and in Uganda, in contrast to the other places shown.

Most of the patients presented in Stage II — see Table 3. Incidentally, 2 patients were excluded from this section. One of them presented with Stage II in 1986 but had a local recurrence in 1987 the other came with Stage II in 1985 and had a local recurrence in 1987. Stage III and Stage IV which are regarded as advanced cancer made up 57.1%.

In all, 16 patients had excision biopsy prior to operation. Majority of those who did not have it were Stage IV patients. From the histology reports invasive ductal carcinoma is most common in Enugu. Other investigations were the routine full blood count, chest X-ray and urinalysis. There was also skeletal survey in 2 patients to check for metastasis.

Only one nulliparous patient was in the study population. The menopausal status is shown in Table 4. Its status in 6 patients was not ascertained and there were 2 males.

Radical mastectomy was the most popular surgery, 54.5% (Table 5). 4 patients did not come for surgery after cancer was diagnosed histologically

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One person had cytotoxic drugs pre-operatively, she was pregnant and surgery had to be delayed until post-partum. 16 persons received tamoxifen, pre-operatively. Post-operative therapy was cytotoxic drugs (5 patients) or tamoxifen (4 patients) or a combination of both (18 patients). One person in addition to the chemotherapy and hormonal therapy had two courses of radiotherapy at University College Hospital, Ibadan. The cytotoxic drugs were mainly a combination of any three of the following: cyclophosphamide, methotrexate, 5-fluorouracil and vincristine. One person, however, received adriamycin.

16 patients defaulted in taking the cytotoxic drugs, usually out of financial difficulty. They did not show up at the clinic for follow-up.

Table

Table I
Age Distribution

Age	No.	%
21-30	7	19
31-40	14	38
41-50	12	32
51-60	3	8
61-70	0	0
71-80	1	3

Table 2

Table 2

Comparison of UNTH Figures with other series*

Race	Total No.	% in Age Groups						
		16-20	21-30	31-40	41-50	51-60	61-70	70+
American White	632	0	0	14	37	26	17	6
American Negro	52	0	0	23	36	23	12	6
British	175	0	0	7	33	35	21	11
Indian	151	0	0	23	34	23	13	7-25
Japanese	116	0	0	21	52	20	6	2-24
Uganda African	150	1	16	33	25	17	6	2
Enugu African	37	0	19	38	32	8	0	3

*Other series as obtained from an Uganda Study (2).

Table 3

The Manchester Breast Cancer staging at UNTH Enugu

Stage	Total	%	Manchester Staging
I	2	5.7	Growth confined to the breast
II	12	37.1	Same as Stage I with affected axillary lymph nodes in the axilla
III	9	25.7	Skin involvement larger than the tumour. Fixed lymph nodes in the axilla. Tumour may be fixed to pectoral muscles.
IV	11	31.4	Same as Stage III with distant metastases to supraclavicular fossa, lungs, opposite breast etc.

Table 4

Menopausal Status

	No.	%
Pre	17	58.6
Post	12	41.4

Table 5

Surgical Procedures

Type	No.	%
Radical Mastectomy	18	54.5
Modified radical Mastectomy	5	15.1
Simple Mastectomy	10	30.3

Discussion

As shown in Table 2, breast cancer occurs in a younger age group in our community. Out of the 29 patients who indicated their menopausal status, 58.6% were pre-menopausal. These data are similar to those of a survey conducted by Ojara at Mulago Hospital, Uganda (2).

Another interesting finding in our survey is that multiparity and fertility do not seem to confer any protection from the tumour. Only one patient was nulliparous. In contrast, MacMahon et al in their American study noted that relative protection against the disease is offered by early child bearing and relative risk is increased by lack of pregnancy, and even more, by delay of first pregnancy beyond the age of 30 (3). This may imply some environmental influences and racial factors in breast cancer.

The survey also revealed that most of the patients present with advanced disease. 57.1% of the study population were first seen at Stages III and IV. With better patient education and awareness, it is hoped that the picture would change.

Doctors could also help in early detection of the tumour by routinely examining the breasts of their patients. In this connection some of the guidelines developed by the American Cancer Society for early detection of breast cancer are (4):

- All women over 20 should perform breast self-examination monthly.
- Women 20-40 should have a breast physical examination every 3 years.
- Women over 40 should have breast physical examination every year.

At UNTH Enugu, the investigations for breast cancer include excision biopsy, chest X-ray, full blood count, liver function tests and skeletal survey. Histology of the biopsy material is confirmatory; the other tests are aimed at screening dissemination of the tumour. In better

equipped centres, however, mammography and xeroradiography are also employed in early diagnosis.

The risk factors in breast cancer must be borne in mind too. Such factors include a family history of breast cancer, previous cancer of the breast, a previous biopsy of breast that revealed ductal or lobular hyperplasia, especially atypical hyperplasia, and other less specific factors (3).

The treatment of cancer of the breast at UNTH Enugu is determined by the surgeon. Generally, surgery with adjuvant cytotoxic therapy and/or hormonal therapy obtains. The radical mastectomy described during the last century by William Halstead is the most common operation used; it accounted for 54.5% of all the operations. It entails removal of the breast, the underlying pectoralis major and pectoralis minor with axillary dissection. The initial surgical treatment aims at prevention of local recurrence. The survival of the patient is determined by the presence or absence of dissemination and when it is present by the rate of growth of either soft tissue or osseous deposits (5).

Chemotherapy and hormonal therapy are more adjunctive than therapeutic in our study centre. Ten courses of cytotoxic drugs are given and tamoxifen is administered for fifteen months. At UNTH, there are no facilities for oestrogen receptor assay; administration of tamoxifen, therefore, is based on the surgeon's judgement. Many of the patients, however, out of financial difficulties do not comply in taking the drugs. They later come back with local recurrence and/or metastasis. Fisher (6) in his paper wrote:

The use of adjunctive agents (chemotherapy, oophorectomy or radiotherapy) in addition to radical surgery of the primary cancer of the breast does not appreciably affect the ultimate survival statistics although particular aspects of the disease presentation may be altered (that is, delayed onset of metastases by prophylactic oophorectomy and perhaps chemotherapy in certain sub-groups, and decreased incidence of local recurrence or regional nodal metastases by radiotherapy).

This agrees with the Editorial of the Journal of the Royal Society of Medicine (5) that routine radiotherapy or adjuvant cytotoxic therapy to node-positive cases may not increase survival. In developed countries, conservative surgery is now advocated for early disease. Segmental mastectomy combined with radiotherapy is now used for early cases. In a centre like UNTH without radiotherapy unit, even in Stage I cases, the surgeon has to resort to radical mastectomy.

Acknowledgements

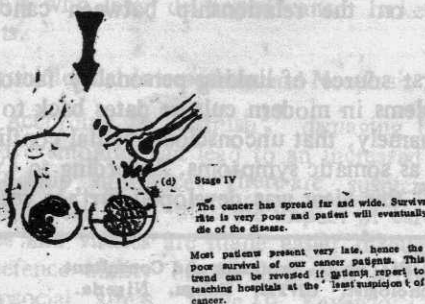
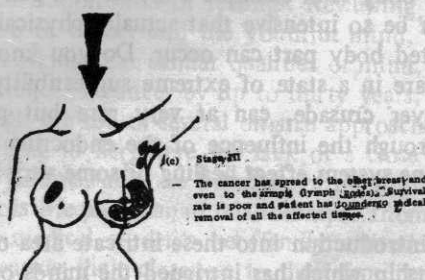
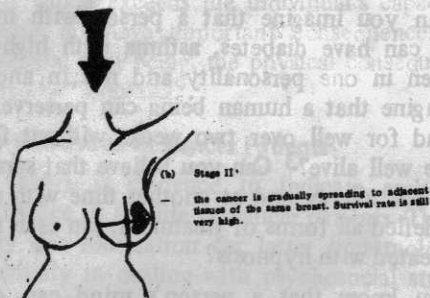
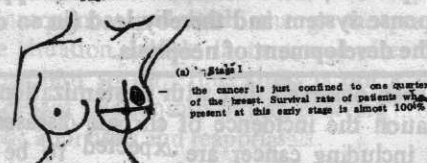
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Stages in the Development of Cancer of the Breast.



CLINICAL PSYCHOLOGY

Psychodynamics of neoplasia

— Peter O. Ebigo

Challenges and or threats which exceed the individual's capacity to handle, can and do have important consequences for physical and mental well being, the physical consequences of stress can also be Neoplasia. It has been amply demonstrated particularly in psychoemotional stress studies (such as in bereavement), that corticosteroid, catecholamines, and testosterone are produced during stress periods; these chemicals tend to suppress the immune response system and thereby lead (in so disposed persons) to the development of neoplasia.

It has been observed that with westernization and so called civilization the incidence of chronic diseases in our environment including cancer are expected to be on the increase (Ebigo and Izuora, 1986)¹

But can you imagine that a person with multiple personalities can have diabetes, asthma with high blood pressure, when in one personality and not in another?² Can you imagine that a human being can persevere in a state of mind for well over two weeks without food or drink and be well alive?³ Can you believe that somebody with poison oak allergy and at another time with mumps which have defied all forms of treatment, can each time be effectively treated with hypnosis?

Do you know that a person's mind can directly influence the body? For example a dream of a gun shot in the hand can be so intensive that actually physical injury on the affected body part can occur. Do you know that people who are in a state of extreme suggestibility, such as in a prayer crusade, can at very rare but possible moments, through the influence of the endocrine system on the immune system effect healing of some very terrible illness?

As an introduction into these intricate area of mind body relationship which has intrigued the minds of many a scientist over the years, I wish to pick (for simplified presentation) on the relationship between cancer and stress.

The first source of linking personality factors with somatic problems in modern culture dates back to Breuer and Freud, namely, that unconscious mental conflict may be expressed as somatic symptoms. According to Cunningham (1984),⁵ this view was developed further within the

field of psychosomatic medicine and has been applied to cancer by a number of authors. For example, Bahnson⁶ argued that a person who is inclined to use repression rather than projection as a defence mechanism would be pre-disposed to somatic rather than psychopathological symptoms when adaptation breaks down under stress. Cothard Booth⁷ proposed, that in people with a strong need for a secure relationship (to a person usually but also to place or even a situation in life), loss of the object could provide its symbolic recreation as a cancerous growth. The basic idea here is that cancer, like many other somatic symptoms, has unconscious psychological meaning. The implications for therapy are that if the patient can be helped to find new meaning, in particular to establish new objects or goals to serve as the centre of emotional attachments, this may tip the balance towards remission of the cancer.

Personality Characteristics of Cancer Patients

According to Baltrusch,⁸ research carried out on more than 1000 cancer patients with various locations by various scientists give a relatively uniform picture. They found out that premorbid personality configuration of cancer patients is described as inhibited, over adapted, too conformistic and rigidly obeying norms. They are also described as depressive and obsessive personalities. Furthermore, the patients are described as not being able to express unacceptable effects but rather they deny, suppress and repress them. Equally they lack the ability to express externally, anger, psychic tension, animosity and even fear. Behind the external facade of courtesy and calm is hidden a whole storm of suppressed effects.

Psychic Situation During the Manifestation of Cancer

At the time of manifestation of cancer a number of authors report that the cancer patient often had to battle with psychic problems, which they could not deal with. This includes loss of a dear person or very important reference or key person in their lives, loss of a very important job, loss of an important life goal. The patients usually are very much stressed by these adverse conditions leading to depression and feeling of helplessness.

Stress and Cancer

Roskies⁹ has tried to put some order and coherence in the rather scattered and non-uniform definitions of

stress. He stated that most stress theories agree that the 'elephant' (stress, that is) does exist and that stress describes a disturbance of homeostasis, an interruption in the smooth flow of habit that forces the individual to engage in active efforts to regain the old equilibrium or to attain a new one. Stress can be considered from three different angles: stress as a physiological response, stress as an external stimulus and stress as a cognitive appraisal.⁹

Stress as a Physiological Response

Hans Selye¹⁰ is popularly considered the father of modern stress theory. He stated that Stress is an orchestrated sequence of hormonal and tissue changes observed in response to any form of noxious stimulus. The stress response occurred when the insult was neither extreme enough to kill the organism immediately nor mild enough to be easily overcome. The physiological changes observed reflected the struggle to overcome this disturbance in equilibrium or in psychological terminology to cope with it. The significance of Selye's work lies in the recognition that ultimately the effects of struggle of the host against the invader might be more harmful than the direct effect of the noxious agents itself.

Stress as an External Stimulus:

There is here a variety of classification systems of stress each providing somewhat different indications concerning the consequences following the types of stressors.⁹ One group (Institute of Medicine report) classifies stressors according to duration: (1) acute time limited stressors, such as a job interview, or a visit to a dentist. (2) stressor sequence or series of events that occur over an extended period of time as the result of an initiating stress trigger, such as multiple residential, financial, job, parental, and social changes that can follow a divorce. (3) Chronic intermittent stressors, such as periodic arguments with a spouse or a weekly project meeting and (4) Chronic stressors, such as permanent disabilities and marital strife, which may not be initiated by a discrete event and which persist continuously over a long time.

The second taxonomy according to Roskies¹⁰ is based on the quality of the event rather than its duration. Lazarus and Cohen¹¹ speak of three types of stress triggers; major changes, often cataclysmic and affecting large numbers of persons (for example war, earthquake, financial depression); major changes affecting one of a few persons (for example bereavement, divorce); and daily hassles.

A third way of classifying stressors furthermore according to Roskies⁹ is by quantity rather than by quality or duration. The life event approach, exemplified by Holmes and Rahe (1967)¹² put forth the view that the negative consequences of stress for health resulted more from the accumulation of stressors requiring adjustment, rather than from the damage brought by any single one. Thus positive as well as negative changes, if too many occur in too short a period, can tax the adaptive capacity of the organism and lead to increased susceptibility to psychological and physical illness.

Stress as reaction of a vulnerable Organism

Schmale¹³ hypothesized that individuals who have unresolved infantile conflicts concerning separation and loss are likely to react to analogous situations in adulthood with feelings of helplessness and hopelessness, thereby

increasing their vulnerability to illness. Similarly, categorisation of persons, according to styles, such as repression-sensitization or coping-avoiding, presumably should increase our ability to predict which stimuli are likely to be perceived as stressful, as well as the nature of the response.

Psychological Stress as Cognitive Appraisal:

From a psychological viewpoint Lazarus (1966)¹⁴ maintains that stress is localized neither in the environmental trigger nor in the physiological response but in the individuals conscious appraisal of the disturbance and in the judgement that one's resources cannot be sufficient to manage the challenge or threat or harm posed to the individual. Stress is therefore the result of a judgement that a disturbance has occurred in the relationship of the person to the environment and further in another judgement that the person concerned cannot deal with the situation. Without this appraisal therefore there is no psychological stress regardless of the degree of the actual danger to the organism. Furthermore according to Lazarus and Launier (1978)¹⁵ the individual's judgement that a stressful situation exists, whether it appears reasonable or unreasonable to the observer, initiates a complex process. Immediately there is an effort to reduce the feeling of disturbance by seeking to change either the situation, the person's reactions to it, or both. This coping effort and its consequences will itself change the person's appraisal of the situation, which, in turn, will alter the subsequent response and so on. Thus stress is not a fixed person-environment relationship but an evolving process, involving multiple appraisals and reappraisals.

The lesson drawn from this is that challenges and or threats which exceeds the individual's capacity to handle, can and do have important consequences for physical and mental well being, the physical consequences of stress can also be Neoplasia⁹.

Early Childhood of Cancer Patients:

There is evidence to indicate early parent-child disturbance in the life of cancer patients. This is often seen to lay the foundation for later immunological collapse, particularly in dealing with psychosocial stress. The child rearing pattern is rigid and prepares the later cancer patients for the suppression of feelings. Reviewing a 40 year perspective of cancer and the youthful mind, Thomas¹⁶ says it is striking that similar qualities of mind, preceeding the occurrence of cancer by up to thirty years, were discerned through the use of several original approaches. Outstanding, according to her, were the lack of a close relationship to their parents, and the presence of an ambivalent attitude towards life and human relationships. Thomas gave several fresh medical students her family attitude questionnaire to measure their closeness to their families. She followed their medical histories over the years. She found that those students who later developed cancer lacked closeness to parents.

Psychobiological Interactions and Neoplasia

According to Baltrush,¹⁷ damaging habits such as excessive smoking can lead to an increased exposition to carcinogenic substance. There are suspicions based on animal experiments, that the impact of carcinogenic substances and viruses are made easier through lowering of the defence ability of the organism brought about by psychosocial stress. Selye,¹⁸ Kavetsky,¹⁹ Balitsky,²⁰

and others have amply demonstrated that psychosocial stress, (especially if this has become chronic and not adequately digested by the affected individual) can weaken or change the homeostatic functions of the organism in the sense of adaptive change in the organism. The functions of the hypothalamic, vegetative, endocrine and immunity systems are disturbed. It has also been amply demonstrated particularly in psychoemotional stress studies (such as in bereavement) that corticosteroids, catecholamines, and testosterone are produced during stress periods. These chemicals tend to suppress the immune response system and thereby lead (in so disposed persons) to the development of neoplasia. Other researchers such as Borysenko, 1982²² working particularly in animal experiments have indicated that psychic stress suppress the cytotoxicity of the natural killer cells. Solomon maps out the following relationship between stress and immune response functions as follows:

1. Emotional disturbance of illness e.g. infection, neoplasia, against which it could have otherwise effectively battled.
2. Serious emotional disturbances are accompanied by disturbances of the immunological system (e.g. schizophrenia, depression).
3. Hormones which are regulated by the central nervous system exercise influence on the immune function.
4. The experimental manipulation of certain parts of the central nervous system through stress or early life negative experiences lead to changes in the immune system.
5. Immunologically competent cells have receptors for neuroendocrine and neurotransmitter substances or for such, which are regulated through these substances.
6. The activation of the immunity system is probably accompanied through processes in the central nervous system, which are explained through feedback mechanisms in the immunity regulation.

Two theories have been advanced, viz.

1. Risk factors leading to chronic & Stress related symptoms

Wickramasekera (1985)²⁴ after 15 years clinical observations identified five risk factors in the development of chronic stress related symptoms such as neoplasia, namely hypnotic ability (suggestibility) lability of the autonomous nervous system (neuroticism), catastrophizing (people who see alarm & panic in almost every apparently unfavourable event), major life changes and minor everyday hassles, coping skills and finally social support. Some of the predictions drawn by the author from his model are: (a) The bulk of people who present with chronic physical symptoms but no physical findings, or with only marginal findings, will be found to be either low or high on hypnotic ability (that is 0 to 4 on the Harvard Hypnotic Scale or 8 to 12 on the same scale) (b) those who are high on hypnotic ability will present both physical and psychological symptoms in either medical or psychiatric settings, while those who are low on hypnotic ability will present mainly physical symptoms, almost exclusively in medical settings.

(c) People high on both hypnotic ability and neuroticism (autonomic nervous system lability) will respond most

strongly to and recover most slowly from stressful stimulation, and they will be found to have lower sensory thresholds for aversive stimulation.

(d) People low on hypnotic ability will respond slowly (if at all) but consistently to stress management therapies (biofeedback, relaxation therapy, systematic desensitization) in contrast to high hypnotizable who will respond rapidly (though inconsistently, if they score high on neuroticism) to psychophysiological therapy.

(e) A simple somatic check list will show that a subset of nonpatients who are high or low on hypnotic ability will have a higher incidence of somatic complaints than people of moderate hypnotic ability.

(f) People low on both hypnotic ability and neuroticism and thereby relatively insensitive to psychological precursors (changes in mood and feelings) of physical disease of dysfunction will be at greater risk for developing serious physical disease (cancer, myocardial infarction) than people high on both hypnotic ability and neuroticism, and they will delay longer in seeking medical investigation.

(g) People high on both hypnotic ability and neuroticism are likely to be over users or heavy users of medical and/or psychiatric services, particularly if they score high on catastrophizing.

(h) People low on hypnotic ability who respond positively to psychophysiological therapy will show a tendency to increase their hypnotic ability, and people high on hypnotic ability will show a tendency to reduce their hypnotic ability. The logic behind these predictions is as follows: People low in hypnotic ability will, through biofeedback or relaxation thereby, learn to identify and verbally discriminate between physical sensations and their emotional correlates. These changes in internal attention and verbal sensitivity will increase hypnotic ability. The high hypnotic ability person will learn to process his or her internal world (sensations, emotions) through a left hemisphere brain programme (critical analytic, sequential) that organises the internal world rationally and quantitatively. Compare also Rossi (1987)²⁵.

2. State-Dependent Memory, Learning & Behaviour Therapy of Mind-Body Healing.

Editorial comments of Advances (1987)²⁶ have explained the major questions that motivated Rossi in his theory. The questions were: how does the mind communicate with the body and by what mechanism is mind-body healing achieved? Rossi proposes that the missing link in mind-body communication and healing is state-dependent memory, learning and behaviour (SDMLB), a concept that originated during the past 40 years in research on behavioural that a memory becomes conditioned to or associated with an altered state of consciousness such as that induced by alcohol or barbiturates. When the drug is metabolised out of the body, the memories associated with it tend to become dissociated or amnesic. They are not really lost, however, because when the drug is readministered, the memories return. This phenomenon of memory dissociation or reversible amnesia, is an essential component of SDMLB. The memory is state-dependent and therefore can be reached or assessed when the patient is in an altered state. The learning and behaviour that evolved from that memory can also be changed by gaining access to the state dependent memory. The theory of Rossi therefore, is that psychosomatic problems may be rooted

in state-dependent memories. When these memories are accessed via therapeutic hypnosis or other forms of mind-body therapy, mind-body healing can result.

Conclusion.

The second part of this essay series will deal with psychosocial factors in the process of neoplastic illness, psychosocial and social factors in delaying the search for diagnosis, psychological interventions in neoplasia, and finally cancer diagnosis, psychic reactions and strategies to overcome them.

It is the task of medicine to prevent or to heal any illness, where this is not possible the suffering brought about by the illness should be alleviated. Clinical experience has shown that these goals cannot be achieved only through somatic measures, rather psychic and social aspects are also important, which is one reason why a more dimensional approach to the patient is absolutely necessary. This is enough justification for this rather young aspect of medicine namely the mind and the society to complement the body in the treatment of the whole person (Ebigbo, 1985, 27 198628).

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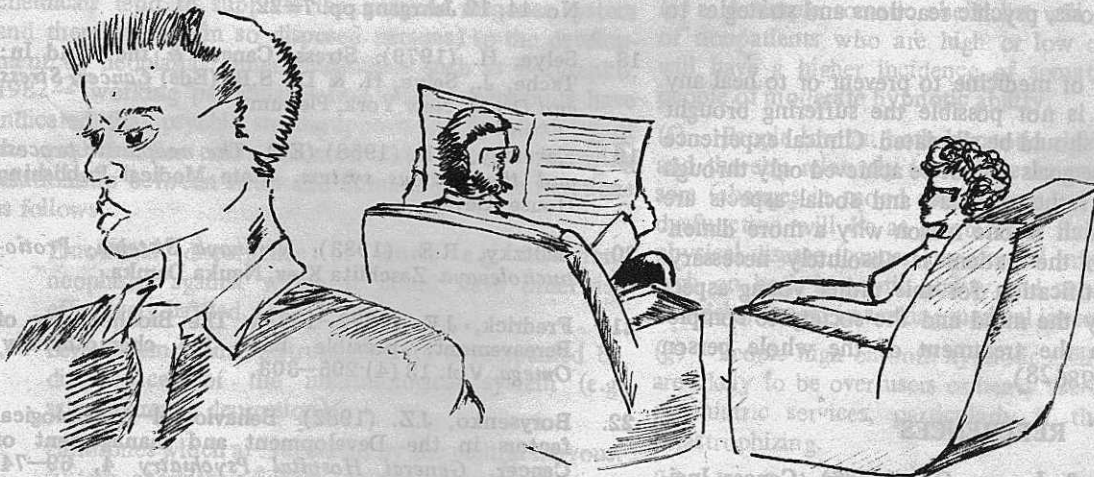
Major Advance in Nerve Repair

British Surgeons are developing advanced technique to repair damaged nerves. The new technique uses muscle fibre from the patient prepared by freezing in liquid nitrogen before being thawed in distilled water and inserted between the damaged lengths of the nerve to form a bridge.

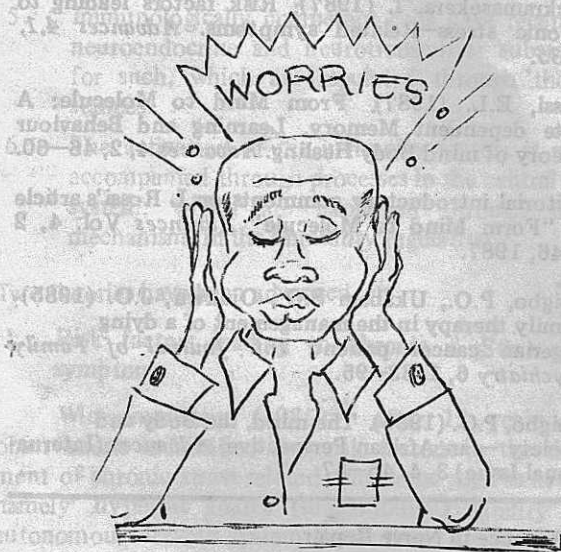
The nerve fibres then grow naturally and reconnect through the graft. As well as offering the prospect of repairing nerves damaged at birth or in accident, the method may help in major cancer operations when nerves have to be sacrificed to remove tumours. It can also speed up some operations, reducing the risk to the patient. The normal nerve graft techniques involves removing tissues from another part of the body requiring a second and often long incision.

(London Press Service, 1988).

CANCER PATIENTS

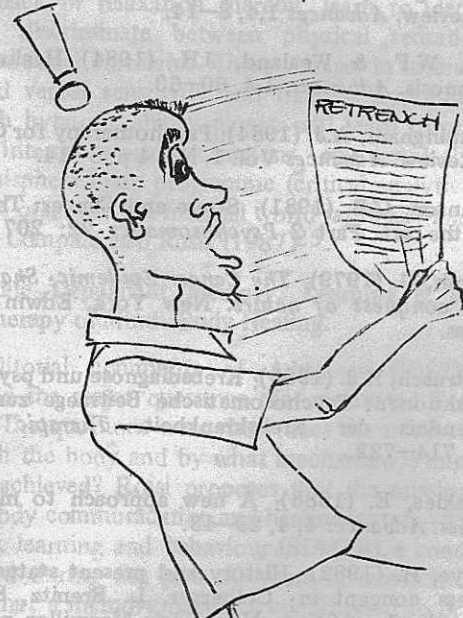


...lack... a close relationship to parents



..(are) depressive and
obsessive personalities

at the time (of the cancer)



..often had to battle with
... problems.

Epostane (Oral Abortifacient)

Epостane is an inhibitor of 3 P- hydroxylase, an enzyme essential for progesterone synthesis. A study in the Netherlands has shown that when the drug was given to fifty (50) women between the 5th and 8th week of pregnancy, 42 aborted within 14 days.

Most of the women reported nausea while taking the drug but said they preferred the side effect to the prospects of dilatation and curettage (D&C). (New England Journal of Medicine, Vol. 319, 1988).

NURSING

Nursing care of cancer patients — A reappraisal of the experience in a typical Nigerian teaching hospital

— Cecilia I. Eze

Nursing care of cancer patients is highly individualised and is influenced by factors such as the patient's characteristics, the site and stage of the cancer, and the treatment modality.

The experience at the University of Nigeria Teaching Hospital Enugu, shows that most patients are diagnosed at a late stage when cure can hardly be expected. This situation coupled with the lack of sufficient equipment and drugs, fosters hopelessness in both the patient and the caring personnel. The situation can be remedied by improved public enlightenment programmes, improved treatment and care facilities as well as by the establishment of special cancer units in our teaching hospitals.

The nurse caring for the cancer patient shares with other health care personnel the responsibility of participating in the prevention, diagnosis and treatment of cancer.

The Role of the Nurse in Prevention of Cancer

All nurses are required to acquire an up-to-date knowledge about the pathology of cancer, the current methods of diagnosis and treatment as well as awareness of early signs and symptoms of the disease, and to participate in the dissemination of such knowledge.

Education of the public should stress:

- (i) The importance of avoiding exposure to carcinogenic agents such as cigarette smoking, asbestos dust, excessive exposure to the sun's rays, etc.
- (ii) The importance of early detection and treatment and the fact that some cancers can be detected in the asymptomatic phase and cured.
- (iii) The need for regular periodic examinations e.g. All females should be taught and advised to do a monthly self examination of the breast and annual "pap smear".
- (iv) That cancer treatment is free in the teaching hospitals and some other government hospitals.

The Nurses Role in the Treatment of Cancer

Cancer may be treated by surgery, radiation and chemotherapy or a combination of these.

The nursing care of the cancer patient is highly individualized and is influenced by factors such as the patient's characteristics, the site and stage of the cancer, and the treatment modality. However, certain nursing problems common to cancer patients will be examined briefly here.

Psychological Reaction

Most people dread cancer and feel that the diagnosis of cancer means the "end of the road". It is often difficult for people to accept the diagnosis of cancer and avail themselves of treatment opportunities. It is however clear that some cancer patients can be cured, some can be helped to live normal useful lives for long periods.

The nurse caring for the cancer patient should develop a hopeful positive attitude to cancer so as to help the patient and his family cope with the emotional trauma associated with the disease. Cancer provokes much more anxiety than other diseases and the patient's reaction may vary. The nurse should accept the patient's reaction and endeavour to understand some of his fears and concerns. This enables her to provide support, correct misconceptions and discourage hopelessness. The nurse must know what the patient has been told by the doctor, to prepare her for questions and discussions. The decision to tell or not to tell the patient that he has cancer is determined by many factors such as the patient's circumstances and responsibilities and how he has accepted and coped with crises in the past. Good judgement must be used in any given situation to avoid undue stress and apprehension that this may cause. The help of the patient's spiritual adviser may be needed to help foster hope.

In addition to the reaction to the disease, other reactions may result from alteration of the patient's body image caused by the treatment technique. For example, the use of chemotherapy may cause loss of hair which may produce depression. The nurse can be helpful by stressing the temporary nature of the problem and also by encouraging the patient to wear scarves, turbans or wigs. Where treatments (e.g. surgery and irradiation therapy) produce changes that are disfiguring and mutilating, the nurse should support the patient by approaching him with kindness, warmth and understanding. She should show a continued sincere interest in the patient's welfare and attend to his physical, mental and social needs. Some patients may show hostility to the nurses, doctors and other personnel and require an understanding nurse to overcome their feelings and find new ways of coping with

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their altered life style.

Pain

Pain is imminent in the later stages of cancer when surrounding tissues and sensory nerves are invaded. Nursing measures such as changing the patient's position, massaging the back and body, providing support with pillows, conversation and diversion may help relieve pain. Prompt attention to the patient's needs may also relax him and relieve pain. Strong analgesics are indicated in most cases and should be given promptly before pain is fully established. The patient, in the terminal stages of cancer, also requires analgesics to keep him free from pain, even when he cannot express pain.

Fluids and Nutrition

Increased fluid intake may be necessary if the patient is vomiting following drug therapy. The patient on radiotherapy also requires extra fluids to encourage excretion of toxic materials from cellular breakdown. This is achieved by giving intravenous fluids and by provision of oral fluids in varied forms. Maintaining adequate nutrition may be difficult because of anorexia and impaired absorption.

The preferences of the patient should be considered to enable him take food. Specific dietary needs will vary depending on the location of the cancer and its severity. But small amounts of high calorie, high protein foods given at frequent intervals are generally suitable for most patients. Vitamin supplements are usually ordered to meet deficiencies and improve appetite. The patient who cannot feed orally should be fed by tube or parenterally. A strict fluid intake and output record is usually in kept to monitor fluid balance and correct any deficiency.

Infection

Patients with cancer are highly susceptible to infection because of general debility, lowered resistance and the method of treatment used. Preventive measures such as changing the patient's position, encouraging deep breathing and coughing to prevent lung infections, avoiding contact with infections, hygienic care of the skin and mouth should be employed. Ensuring adequate nutrition also helps to raise the patient's resistance. Severely debilitated patients require "REVERSE ISOLATION TECHNIQUES" in order to protect them from infection.

Fungating Growth

Sloughing of tissue and secondary infection may produce an offensive odour which may embarrass the patient and family. Frequent baths and changing of soiled dressings is mandatory to reduce odours. Cleaning with eusol or irrigating the wound with potassium permanganate may be helpful. Spray deodorants may also be used to control awful odours. Adequate ventilation of the room and scrupulous cleanliness must be ensured.

Skin Care

Pressure sores may readily develop because of emaciation and general debility. Frequent turning and massaging of pressure areas is necessary to prevent sores. The body should be kept clean and dry and pressure relieving devices such as air rings may be used under parts prone to sores. Alcohol should be avoided since it tends to dry the skin excessively, predisposing it to cracking. Skin areas which become red, suggesting possible ulcer formation may be

treated with tincture of Benzoin compound or thymoliodide powder.

Special Problems of the Cancer Patient in a Typical Nigerian Teaching Hospital

The nursing care of the patient with cancer in a typical Nigerian Teaching Hospital such as the University of Nigeria Teaching Hospital, Enugu, obviously is not without problems.

Some of the patients interviewed expressed problems such as difficulty in getting admitted into the wards, delay in treatment, non-availability and high cost of drugs, inadequate attention from nurses, doctors and other hospital personnel. Some claim that they have been abandoned by their families.

These problems may be attributed to the following:—

(1) Conception & Attitude Towards Cancer

Many nurses and other health care personnel have negative conceptions and attitude towards cancer and so lack the positive attitude that is necessary to help the patient adjust to cancer and its treatment. Because of such wrong attitudes, some nurses shy away from discussing cancer and may dread taking care of patients with cancer. The family may abandon the patient due to feelings of hopelessness towards the patient's recovery, thereby interfering with his ability to adjust to the disease.

(2) Inadequate Diagnostic and Treatment Facilities

(i) Most Nigerian Hospitals lack sufficient equipment for early detection of cancer so that most patients are diagnosed at a late stage when cure cannot be expected. This situation helps to foster hopelessness in the patient and the caring personnel. This attitude should however be decried because the dying patient still needs the nurse's support and continued care to ensure a peaceful end.

(ii) Facilities for the treatment of cancer are inadequate. Even though cancer treatment is said to be free, the drugs are often "out of stock". Many patients cannot afford to buy these drugs which usually cost a fortune so that many spend several months in Hospital without receiving adequate treatment.

(iii) Radiation therapy which helps to give the patient years of useful life is not available in most teaching hospitals. This creates undue suffering for the patients making the situation hopeless for both nurses and patients. Patients requiring such treatment are referred to Lagos University Teaching Hospital and University College Hospital, Ibadan.

(iv) Pain relief is a vital aspect of the care of cancer patients. Narcotic analgesics are constantly in short supply so that patients have been allowed to suffer agonizing pain. This makes the nurse feel helpless and inefficient and appear heartless to the patient, his friends and relations.

(3) Inadequate Personnel

The care of the cancer patients is demanding as well as challenging, and requires adequate nursing personnel to give the patients the type of individualised care they deserve.

Many of the teaching hospitals do not have the desired number of nurses. This often leads to a situation where patients' relations are left to carry out some aspects of care

of their sick ones, sometimes unsupervised. The nurse should however ensure that the relations do only what is safe, that they are taught what to do and supervised as necessary.

Suggestions for Improvement

1. Intensive Public-Enlightenment Programme

Nurses and other health care personnel should be educated through seminars, lectures etc. to help them acquire a positive attitude to cancer. Public education should also be carried out to enable family members accept their relations suffering from cancer and give them the necessary support to adjust to the disease. Proper education will also enable people avail themselves of diagnostic and treatment facilities early.

2. Improved Treatment and Care Facilities

Priority should be given to the purchase of equipment for detection and treatment of cancer, especially since the number of cases is on the increase.

Adequate number of nurses should be available in the wards to permit the desired type of care that helps to reduce or relieve the complications of cancer and its therapies.

3. Need For A Cancer Unit

It is important to avoid such existing situations where about 18 patients suffering from cancer are nursed in the same ward with about 12 other patients

to the detriment of the former who cannot receive the type of attention they deserve. Well equipped cancer units need be created in the teaching hospitals to be run by specialist oncologists and oncology nurses who will feel freer with the patients and devote more time and energy to discovering new ways of helping them.

Suggested Further Reading

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Late presentation of patients leads to hopelessness and breeds poor NURSE/PATIENT relations (in CANCER)

Two dimensional echocardiography at work in UNTH

John O. U. Okereke

A presentation of the current status of echocardiography in Nigeria, supports the view that it is the definitive non-invasive method of cardiac diagnosis. Besides, it is safe and risk-free and so may be repeated several times.

2D-Echo in combination with M-Mode and Doppler echocardiography, provides in many cases a comprehensive data that makes cardiac catheterization unnecessary.

On 27th June, 1988 a patient was referred from the Lagos University Teaching Hospital as a case of pulmonary stenosis with a history (dating back almost a year) of intermittent shortness of breath; In between, he was quite fit, in fact, he played a lot of football but occasionally, he would have to stop, get back his breath, then continue.

When we examined him, our clinical findings were similar to those of the referral hospital, hence we thought it was a case of pulmonary stenosis. But on examination with 2-D Echocardiography, we found something else — that he had a tumour, then we decided to operate as soon as possible.

The finding during operation confirmed the 2-D Echo diagnosis of a tumour in the right ventricle that originated from the free wall of the chamber — a long pedunculated tumour that reached the pulmonary valve which it blocked during systole, and during diastole retracted into the cavity of the right ventricle.

The tumour was excised, the patient got well and was discharged 15 days later.

Histology report showed that the tumour was a myxoma.

Accurate diagnosis of heart disease can be time consuming and very expensive. Without definitive diagnosis, patients may be subjected to unnecessary operations or may be denied simple curative or palliative procedures. Cardiac catheterisation has been the main diagnostic method for heart disease, but it is not only expensive but also carries some complications ranging from excessive doses of radiation especially in children with complicated congenital heart lesions to reactions to the dyes. Cardiac complications occur and may include arrhythmias, perforations, infarctions and embolisations. Death may occur following cardiac catheterisation¹.

Non-invasive diagnostic techniques are becoming increasingly popular in clinical medicine. They are relatively safe and carry minimal complications. In cardiology, Two Dimensional Echocardiography (2D-Echo) has become the

single most informative means of defining cardiac anatomy and function. In many situations, cardiac catheterisation is no longer necessary for pre-operative evaluation and follow-up assessment².

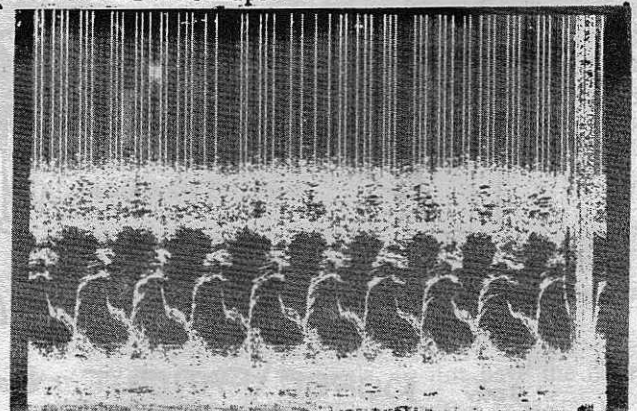
Principle

Echocardiography works on the same principle as an ultrasound machine. The only difference is that it images the heart much clearer than an ordinary general purpose ultrasound machine. It can also be triggered by electrocardiogram so that it can capture pictures of the heart in different stages of the cardiac cycle. Some have Doppler capabilities which make it possible for one to measure physiologic parameters non-invasively.

The basic component of an echocardiographic machine is the transducer. This transmits and receives the ultrasound waves to and from the tissues being examined. The transducer converts the returning echoes into electrical impulses which go to the central processing unit in the machine. This unit composes the pictures of the reflecting tissues. These pictures are subsequently displayed on a screen, or can be printed by a video printer, or can be photographed, or can be stored for future analysis and reference on a video recorder.

Types of Echocardiogram

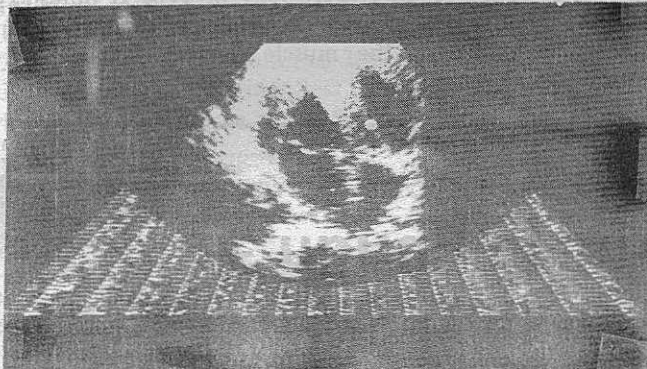
There are three main types of echocardiogram in clinical use. These are M-Mode, Two-Dimensional, and Doppler echocardiography. M-mode was the earliest type. It examines part of the heart at a time and records cardiac events as a function of time. It yields little information about the inter-relationship of the various cardiac structures and their shapes.



M-mode echocardiogram of a patient with Mitral Stenosis.

JOHN O. U. OKEREKE, FRCS, Consultant Cardiovascular Surgeon, UNTH, Enugu, Nigeria.

Two-dimensional echocardiography was developed to overcome the limitations of M-Mode³. It shows a cross-sectional image of the heart and can visualise the entire heart. It shows clearly most of the intra-cardiac structures, valves, papillary muscles, endocardium, inter-atrial and interventricular septa. (fig. 2) It does not however image blood flow. To overcome this, contrast echocardiogram is increasingly being used.



2-Dimensional echocardiogram of a patient with hypertrophic cardiomyopathy. Note the thickened interventricular septum in this apical four-chambered view.

More recently, Doppler echocardiography has been developed and as already mentioned, allows physiologic parameters such as blood flow patterns and intra-cardiac pressures to be estimated non-invasively.

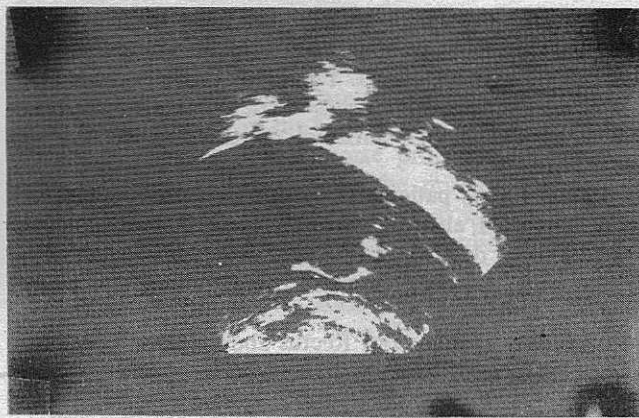
Current Status of Echocardiography in Nigeria

M-Mode echocardiography was introduced in Nigeria over twelve years ago⁴. This has remained the mainstay of non-invasive cardiac diagnostic method in several centres in Nigeria. Two-Dimensional echocardiography was only introduced in August 1987 and since then we have found this technique a most useful method of achieving rapid cardiac diagnosis. (5) Many patients have undergone both closed and open heart operations in our centre without catheterisation. So far, the 2D-Echo diagnoses have been confirmed at operation in most cases⁶.

During the first year, about 500 patients were examined using 2D-Echo in our centre. About 50% of these were aged less than 15 years. In this age group, congenital heart lesions such as patent ductus arteriosus, atrial septal defect, ventricular septal defect (fig. 4) and tetralogy of Fallot, accounted for over half of the lesions seen. In the older age groups, acquired heart lesions such as valvular heart disease (fig. 5), cardiomyopathies, constrictive pericarditis and hypertensive heart disease were more common.



2-Dimensional echocardiogram Apical Four-chamber view showing a large VSD and common atrium (no atrial septum).



2-Dimensional echocardiogram, Parasternal long axis view — The left atrium is large and the mitral valve is stenotic with thick leaflets.

Conclusion.

Echocardiography is the definitive non-invasive method of cardiac diagnosis. It is safe, risk-free and so may be repeated several times. It also has a high diagnostic sensitivity. Two-dimensional echocardiography, in combination with M-Mode and Doppler echocardiography, provides in many cases a comprehensive data that makes cardiac catheterisation unnecessary. The rapidity with which accurate diagnosis is achieved even in the very ill makes this mode of cardiac investigation particularly attractive. In the investigation of anatomic lesions such as diseased cardiac valves and subvalvular apparatus, 2D-Echo is definitely superior to cardiac catheterisation. In conclusion, we believe that 2D-Echo has a definite place in the management of cardiac disease in Nigeria.

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Effect of the Anabolic Steroid (Stanozolol) on Muscles

As part of a larger trial on the value of stanozolol in preventing post-operative deep vein thrombosis Janice L. Hosegood and Antony J. Franks of the department of pathology, University of Leeds carried out a minor trial to find the effect of stanozolol on the size of skeletal muscle fibres.

Sixteen (16) patients undergoing elective abdominal surgery were used, eight of whom received 10mg of stanozolol orally one day for 14 – 21 days pre-operatively. Patients were matched in pairs for Age, Sex and body build.

A biopsy specimen of Rectus abdominis at least 1cm

long was taken at operation (avoiding tendinous intersection). Sections were prepared by cryostat.

It was found that the diameter of type 1 fibres were significantly larger in the patients treated with stanozolol compared to controls. There was no difference between Type II fibres in the treated and the controls. Type II fibres are known to hypertrophy in strenuous exercise.

Thus an increased bulk of Type I fibres due to stanozolol added to the hypertrophy in Type II fibres as a result of strenuous exercise in Athletes, increases the aerobic potential of the muscle, lessens fatigue and improves performance.

Intracranial Tumours in Enugu — Excerpt from an interview with Prof. S.C. Ohaegbulam

— Francis Chukwuani and Chiemezue Okoye

We bring you excerpts from an interview with the head of the neurosurgical unit at the University of Nigeria Teaching Hospital (UNTH) Enugu, on intracranial tumours in Enugu, featuring their epidemiology, management and the experience of the unit.

Characteristics of Intracranial Tumours

Intracranial tumours are tumours affecting brain membranes and parts of the intracranial compartments. This will include: tumours of the meninges, brain, ventricles and related organs in the intracranial compartments.

Like tumours in other parts of the body, brain tumours can be classified into benign and malignant; the malignant can be primary or secondary. Definition of malignancy in the context of brain tumours is slightly different from tumours elsewhere in the body. For example, one of the hallmarks of cancer is dissemination, but this is not necessarily the case with malignant brain tumours. A malignant brain tumour can remain locally malignant and exert its effect by invasion of adjacent structures, particularly, vital parts of the brain. Distant spread which may occur is usually very rare. Spread along the cerebrospinal axis through the CSF pathway can occur.

Although most neurosurgeons in Africa believe that brain tumours are less common among Africans than among the Caucasians, this must be viewed against the background of inadequate diagnostic facilities. For example, computerised axial tomography is still not available in Nigeria and most countries in Africa.

It is well known that other modalities for investigation like angiography, ultrasonography, plain skull radiography, ventriculography, etc., may miss tumours in certain locations either because of their hidden position or because of their size, but CT scan is able to demonstrate such lesions. In centres where CT scan has been introduced, it has become quite clear that the incidence of intracranial tumours rises very sharply due to the better diagnostic capability of the equipment. Hence until CT scan becomes available in this part of the world, any discussion about the incidence of intracranial tumours remains incomplete.

Cases encountered at UNTH show that, brain tumours have a predilection for the younger age group. Infact about 34% of tumours were seen within the first decade of life. Within the first 3 decades of life, we encountered nearly 70% of all intracranial tumours seen in our unit, whereas from 60 years upwards, we did not encounter many intracranial tumours, infact less than 5% in all. The disease is thus very sinister because of the common occurrence in the young.



Brain Tumour Recurrence
Courtesy of Dr. Amuta

Pathology/Classification

Brain tumours can be primary or secondary. Primary brain tumours account for about 93% of cases at UNTH, while secondary or metastatic tumours account for about 7%.

Primary tumours can be classified as follows:

- | | |
|--------------------------------|------------------------------|
| 1. Gliomas | 24% of brain tumours at UNTH |
| 2. Meningioma | 26% " |
| 3. Craniopharyngiomas | 18% " |
| 4. Pituitary tumours | 15% " |
| 5. Tuberculomas | 4% " |
| 6. Miscellaneous tumours | 6% " |

It is surprising that tuberculomas which are expected to be common in this part of the world, where tuberculosis is prevalent, accounts only for 4% of all intracranial tumours seen at UNTH. Besides, CNS tuberculoma has not been encountered in the neurosurgical unit of UNTH over the last 6-7 years.

Looking more closely at glioma (which is one of the commonest brain tumours), the following subtypes are found:

1. Astrocytoma..... 37% .. gliomas
2. Glioblastoma multiforma 30% ..
3. Haemangioblastoma...less than 11% ..
4. Medulloblastoma.....11% ..
5. Colloid cyst..... 4% ..
6. Ganglioma..... 4% ..
7. Ependymoma.....2% ..

The miscellaneous group include: lymphoma, sarcoma, schwannoma, hamartoma, neurofibroma and giant cell tumour of the sphenoid bone.

Management

When a patient is referred to a neurosurgical unit with suspicion of intracranial tumour, the differential diagnosis will be from other causes of intracranial space occupying lesion or of increased intracranial pressure such as cerebral abscess, haematoma from head injury, hydrocephalus from any cause, and vascular malformations or lesions like angioma or giant aneurysms.

A patient with intracranial tumour may present with signs and symptoms of intracranial space occupying lesions such as:

1. Headache, which may be associated with vomiting
2. Visual impairment or visual loss due to papilloedema
3. Focal symptoms like epilepsy
4. Weakness of related or any part of the body
5. Sensory changes
6. Gait disturbances, etc.

The clinical assessment will include:

- (i) Careful history taking
- (ii) Detailed neurological examination
- (iii) Investigations

Investigations will start with plain skull radiography, which may reveal some abnormalities like: increased bone density (in cases of meningiomas), widening or erosion of the sella turcica (as in pituitary tumours or raised intracranial pressure), calcification in the intracranial compartments from certain brain tumours like oligodendrogliomas or angiomas. Skull X-rays may also show sutural diastasis from prolonged (brain) intracranial tumours. Shift of the pineal gland is not a common finding in Africans because the pineal gland is very rarely calcified in Africans.

Other investigations include: Electroencephalography (EEG) which may reveal abnormal (foci). Angiography, carotid or vertebral or a combination of both – from this we can demonstrate: (a) shift or displacement of intracranial vessels from their normal positions or (b) pathological circulations or (c) diagnose brain tumours or intracranial haematoma.

In select cases, we may require ventriculography or air encephalography in order to conclude investigation.

If brain tumour is confirmed by the investigations, we decide on whether or not surgery is indicated. Where surgery is indicated, appropriate craniotomy is planned for the excision of the tumour.

Prognosis

The prognosis depends on a number of factors. Primary and secondary tumours have different prognosis. Secondary tumours, which are usually metastatic tumours from different parts of the body such as cancer of the lung, breast, kidney, etc., have worse prognosis than primary brain tumours – this is because the primary tumour may have spread to other parts of the body as well.

The prognosis of primary brain tumours depend on the type. For example, benign tumours like meningiomas have better prognosis than gliomas. Even within the family of gliomas, different types have different prognosis, some of them like oligodendrogliomas are slow growing and are compatible with long periods of survival, whereas glioblastoma multiforma has a bad prognosis.

Like tumours elsewhere, early diagnosis and treatment is usually recommended for best results and some of them may be followed up with radiotherapy and chemotherapy as adjuvant treatment. The best treatment for intracranial tumours is surgical excision.

Prevention

Not much is known about the prevention of intracranial tumours as the causes are not yet clear. However, it is known that even benign tumours can undergo malignant change, for example, meningioma can transform into sarcomas. Hence if they are diagnosed early and removed then malignant change could be prevented; so also pituitary tumours which could start from being benign adenomas and progress to malignant forms.

Proper management of cranial injuries is encouraged as such injuries may predispose to meningioma.

Personal Experience/Appeal

My personal experience in Enugu is that most practising doctors do not suspect or recognise intracranial pathology early enough to refer the patient for further expert management. Hence most of our patients reach the neurosurgical unit at a very advanced stage of the disease making it difficult to achieve complete removal of the tumour without sacrificing a lot of brain or vital tissues.

My appeal, from this interview, is to stimulate awareness and heighten the index of suspicion so that patients could be referred for early investigations. *Patients who present with epilepsy, particularly, late onset epilepsy and patients who have unexplained neurological deficit, those who complain of persistent headache, patients who have suspicion of endocrine disturbance that may point to Cushing's disease, even patients who complain of bad eyesight* (it is not always the case that these patients require prescription of glasses – they should be examined thoroughly to exclude pituitary tumours or lesions that cause raised intracranial pressure and papilloedema, which may be responsible for their visual impairment).

In short, Doctors should be aware of the problem of intracranial tumours, suspect them and refer patients promptly for management.

Guinea worm eradication in Anambra State of Nigeria — Excerpt from an interview with Prof. A.B.C. Nwosu — *Kenneth Omeche and Francis Chukwuani*

Guinea worm infection will be completely eradicated in 75 communities in the Abakaliki zone of Anambra State by 1990. This was disclosed to Medikka correspondents by the Commissioner for Health of Anambra State, Prof. A.B.C. Nwosu, a parasitologist who has researched extensively on guinea worm.

The Commissioner stated that an internationally acclaimed three — pronged strategy was mapped out for the programme. The first line of action involves mobilization and education of the people at risk. In this regard, the people are taught to boil their water before drinking. But compliance to this was found to be poor. The use of filter made from white clothing material was therefore introduced as this can filter out the cyclops that carry the causative organism. Chemicals are also used to treat the ponds but this is expensive and poses some risk to animals including humans.

The second line of action, Prof. Nwosu stated, is the identification and treatment of those infected.

Drug treatment using Albendazol (Zantel) is found

to be effective. In addition infected persons with skin ulcers are made to bandage the wound always so as to prevent secondary bacterial contamination.

The third aspect of the programme is the provision of clean and pure water for the people at risk, as an alternative to the dirty, highly contaminated water they get from ponds. In this regard Boreholes both deep and shallow are sunk in the areas affected. The Commissioner stated that on the average about five (5) boreholes/week are sunk in the Abakaliki Area. In addition, rainwater harvesters are used to supplement the boreholes.

On the whole, it is estimated that N70 million out of which N10 million will come from the government, will be spent on the eradication programme. The commissioner paid glowing tribute to the people and government of Japan for their immense support to the eradication programme. He also acknowledged the support of UNICEF, Global 2000 (American Ex-President Jimmy Carter's Foundation), Rotary International and the Federal Government to the eradication programme.

Problems of the Nigerian teaching hospital

— *Chima Ohaegbulam*

An analysis of the factors governing the efficiency and effectiveness of any standard teaching hospital was done. The peculiar circumstances and constraints of teaching hospitals in Nigeria (especially UNTH) were identified.

It was found that most teaching hospitals in Nigeria have more than they chew — this affects the quality of their specialist services and teaching functions. Perhaps the Federal Government should re-define their roles and make financial subventions commensurate to such roles.

Nigerian teaching hospitals have been severely criticized on several issues in recent times. A lot of this criticism fails to take into account the peculiar problems facing these institutions.

Admittedly, the public in Nigeria do not receive the full benefits of what the teaching hospital is expected to render. However, one needs to ascertain whether these problems emanate mainly from within the teaching hospital and those who manage it, or are extraneous and beyond their control.

The Role of the Teaching Hospital

Available literature has failed to produce one common definition of a traditional role for the teaching hospital. The interpretation and application of its role are as varied as the multitude of researchers, economists, planners, politicians, consumers, users, environments, needs and demands. This makes the situation rather fluid leading to the conclusion that "..... there appears to be no statutory definition of teaching hospitals although they are generally regarded as those associated with a University undergraduate medical school where undergraduate medical students receive their clinical training and junior doctors their higher specialist training"¹. To support this conclusion with some variation in the application, Ebert² believed that the service function should be limited to only "... the teaching hospital of last resort". Similarly, Makler³ emphasizes that ".... the teaching hospitals where they exist are usually the hospitals of excellence in the country....."

On the other hand, advocates of the supremacy of service such as Lord Rosenheim⁴ believe that anyone

CHIMA OHAEBULAM, 4th year medical student, College of Medicine, UNEC.

advocating that the teaching hospital "..... should be concerned with education and not delivery of service" is a reactionary. These examples of the diversity of views underscore the point that the teaching hospital must be ready to accept whatever the circumstances determine for it. In Nigeria, the needs of the people have always had the upper hand in determining its functions but this makes no allowance for other responsibilities such as teaching or research. This dilemma has been adequately described by Lord Rosenheim⁵ who laments that these teaching hospitals in the developing world are "hospitals with limited resources and inadequate facilities (which) struggle to maintain that high level of medical care that must be demonstrated to the student... in addition to the overwhelming demands for medical care..." which if not provided by them will not otherwise be available to the community. In addition, the teaching hospital in Nigeria is "... a gate-house, expanded in concept of scope to provide the levels of preventive and primary care which represent the overwhelming needs..."⁶.

As a formal seal to these various dimensions controlling the function, performance and effectiveness of the teaching hospital in Nigeria, the Federal Government has, in enacting Decree⁷ establishing the various teaching hospitals in the country defined their role as the provider of "... facilities for training of medical and other students as are usually provided by teaching hospitals of high repute" and also "... of facilities for comprehensive medical care". It is also given the task of development of community health programmes in its locality on behalf of the Federal Ministry of Health.

From the above, it is evident that the role of the teaching hospital is very poorly demarcated and this is especially compounded in the Nigerian situation.



Inspection of new site of U.N.T.H.

The Problems of Nigerian Teaching Hospitals

The peculiar problems faced by the Nigerian Teaching Hospitals are legion. At their root are a number of very basic constraints. These are discussed below:

- i. With the fluid definition of its role, the Nigerian teaching hospital ends up playing every conceivable role from that of a medical school to that of a first aid clinic. This unfortunate situation stems from various factors in policy planning. Compounding this problem is the absence of an established referral system in the country such that any ill person goes

any where he likes, more often than not, to the teaching hospital. This compels the teaching hospital to overstretch its efforts, manpower, time and funds to handle these cases that cannot simply be turned away. This, naturally, has immense impact on the quality of specialist services and teaching functions.

- ii. In addition to the above problem, the Nigerian teaching hospital is compelled to run an unusually large number of training programmes. For instance, the UNTH, Enugu runs no less than 7 such programmes simultaneously. These programmes lay large claims on the resources of the hospital — funds and facilities. Moreover, with their over 700 students they demand very high running costs for reagents and disposables, personal emoluments of staff and capital investments.
- iii. Research activities are very demanding on the hospital in a manner similar to the teaching programmes. A lot of facilities are routinely used for research/statistical purposes. These include things such as unjustified expensive laboratory tests. This is, again, a drain on already meagre hospital resources.
- iv. At the root of the above, is the fact that Government does not actually take all these problems into consideration while providing funds. A block (and always grossly inadequate) sum of money is allocated annually to the hospital for it to use as it (the hospital) deems necessary. This situation is compounded by the fact that government, every now and then, imposes new policies on the hospital with no provisions for their funding. For example, free treatment for children under 10 years, cancer cases, tuberculosis patients and some other categories, constitutes a great drain on hospital funds especially as they tend to be expensive illnesses to manage. These policies are handed down to the hospitals without consulting them, or without providing extra funds to sustain such schemes. The hospitals also do not charge commercial fees but have heavily subsidized (by hospital, not government) charges.

In addition, there is no Nigerian equivalent of the British situation where extra funds are allocated on the basis of the number of students at the hospital.

Government funding also does not take annual inflation rates into account and it is quite common that subvention to the hospitals is considerably less in one year than for the preceeding year.

- v. Some essential infrastructure is missing from the Nigerian health system such that the teaching hospitals are obliged to provide these facilities if they are to function properly.

The first of these is a blood banking scheme. In the developed world, this is a service provided directly by the state or voluntary agencies, as it is an expensive affair and very demanding in effort. However, as this system is not used in Nigeria, the teaching hospitals are compelled to devote a lot of resources to sustaining a blood bank for its use. This is a great drain on resources.

Another problem is the erratic supply of electricity and water in many parts of the country. Teaching hospitals are thus obliged to ensure the steady supply of water and power at very high

cost if they are to maintain effective services.

vi. Teaching hospitals are some of the very few true tertiary health institutions in the country. As a result, they have to cope with very large catchment areas and populations. The UNTH Enugu, for example has an extended catchment area of 7 states with a population of more than 20 million people. For some 'super-specialities', the catchment area is actually about half the entire country. This puts a lot of strain on the hospital's resources.

Related to this is the diverse case-mix the hospitals have. This demands a wide variety of specialist staff, equipment and facilities that entail high maintenance budgets.

There are some other problems encountered by the teaching hospital as a result of some other problems in the Nigerian context.

(a) **Transport:** Because of very poorly-developed public transport and communications systems, the hospitals are obliged to provide transport for some essential services. This involves the expensive maintenance of large fleet of vehicles. Similarly, ambulance services, ideally a separately-run service (by the state or private agencies) have to be provided for by the hospitals.

(b) **Domestic Services:** Because of the haphazard planning of most teaching hospital sites, they tend to cover very large areas which demand a lot of resources in order to maintain adequately. As a result, there is usually a large complement of labourers whose work is hampered by the fact that time and effort-saving equipment are difficult to obtain.

All the above problems should be looked at together to properly appreciate the set of circumstances the teaching hospital in Nigeria finds itself and under which it operates.

As a comparison, the average teaching hospital in the U.K. has extra funding specifically for teaching and research, does not invest in electricity or water supply, has no need to maintain large fleets of vehicles or actively scout for blood donors, among other things.

The Nigerian teaching hospital has an annual budget of N10-20 million, while a comparable institution in the USA has an annual budget running into several hundred million US dollars.

Solutions

The first step in solving these problems will be the adoption of a totally realistic approach towards teaching hospitals by the Federal Government and the Ministry of Health.

Government must be realistic as regards funding of these institutions. It should either subsidise them fully or allow them to charge economic fees. There is really no other way out. If it wants to subsidise health services, then Government must be prepared to increase massively its subvention to the sector. On the other hand, if the option of economic fees is chosen, then a National Health Insurance Scheme as suggested by several authorities will be of immense help to alleviate problems of paying high fees by poorer citizens.

Government must, in addition, properly define the

role of the teaching hospital in the national health system. Once this is done, it should be funded and provided for as its defined function demands.

In relation to this, it is necessary to establish a referral system in the country such that teaching hospitals are no longer bombarded by patients with all sorts of trivial complaints.

Finally, Government must provide basic infrastructure such as electricity and water for the hospitals. It must realise that it must do this, and that it is not the hospitals' function. This also applies to blood-banking services, public transport and communication facilities.

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1988 Nobel Prize Winners for Medicine and Physiology

The 1988 Nobel prize for medicine and physiology went to three scientists - One Briton and two Americans whose work have led to the development of many drugs for several common diseases.

The British winner, Sir James Black of Kings Hospital, London can be described as the father of analytical pharmacology. He won his share of the prize for his work in designing the world's first Beta-blocker. He began this work in the early 60's when he was working for ICI.

Sir Black later used the same principle to develop H₂-antagonists used in the treatment of peptic ulcers. One such drug, cimetidine (Tagamet) became the best selling drug in the world.

The two American winners, Gertrude Elion and George Hitchings are researchers working at Burroughs - Wellcome Research Laboratory in U.S. They have worked together since 1945. They aimed to identify differences in the synthesis of nucleic acids between normal human cells, cancer cells and micro-organisms that cause disease, ultimately hoping to identify substances that would interfere with the process. Their work led to drugs now used for the treatment of malaria, leukemia, gout, organ rejection and herpes.

Electric insect (Paapa)

At about the period of dry season many students on campus suffer from localised blisters on their skins which are burning in character. The cause of these blisters has been pinned on a creeping animal about one centimetre in length and conspicuously coloured. Students call it "paapa". It is not immediately known how the insect got its popular name, but scientifically it has been traced to be a specie of beetle. It is under the phylum, arthropoda, class: insecta, order: coleptera, family beetle. It is a specie of Rove beetle (Staphylinidae) of the genus *paederus fuscipes*. It secretes a fluid which causes blisters on contact with the skin. The vessicant reaction is often delayed so that the patient is sometimes unable to associate the lesion with its cause¹. Extensive contact on the face is a miserable situation especially to the female students because its effect is likened to the lionel facies of lepromatous leprosy. The blister beetle stores venomous fluids in glands at the sides of the abdomen and when the beetle is crushed as a result of the creeping sensation on the skin it forces out the venom.

Effect on the Skin

In an experiment I performed on the skin of a volunteer the beetle was mechanically crushed on the skin. There was no inflammation or pruritus. On the second day the skin area did not show any significant change. But on the 3rd day the area became raised with patchy red spots, hot, painful and accompanied with intense pruritus. The inflammation worsened on the 4th day with blisters appearing. The skin healed six days later leaving a hyperpigmented area.

The discharge of the venomous fluid by the beetle is entirely involuntary and occurs when it is crushed. In other words a form of defence mechanism to poison or ward off organism. The venomous fluid is responsible for the erythematous vesicular eruptions at site of the skin. It is usually a linear or patchy lesion most prominent on exposed parts of the body like face, neck and hands. If the fluid gets into the eye there is intense pain and swelling⁴. Perhaps the fluid is an allergen and the lesion a delayed hypersensitive reaction in sensitised individuals.

Nature of the Secretions

The secretion of the beetle has been incorrectly described as cantharidin⁵. Cantharidin produced by a type of blister beetle of the family - meloidae is the lactone of cantharidic acid, commercially it is produced by the spanishfly.

However the toxic principle in *paederus fuscipes* (Paa-pa) is *Pederin* and it has been isolated as the cause of the blisters. It is a powerful inhibitor of protein synthesis and mitosis. The chemical formula is $C_{25}H_{43}NO_8$ molecular weight is 503.65 and there are crystals from hexane, benzene + hexane, ether + hexane.

The chemical name is [[6 - (2, 3 - Dimethoxypropyl) tetrahydro 4-hydroxy 5, 5 - dimethyl - 2H - pyran - 2yl] methoxymethyl] tetrahydro - hydroxy - 2 - methoxy - 5, 6 - dimethyl - 4 - methylene - 2H - pyran - 2 - acetamide. N - [[6 - (2, 3 - dimethoxypropyl) tetrahydro - 4 - hydroxy - 5, 5 - dimethyl - 2H - pyran - 2yl] methoxymethyl] tetrahydro - 2 - methoxy - 5, 6 methyl - 4 - methylene - 2H - pyran - 2 - glycolamide.

Pederin is slightly soluble in water and hexane. soluble in methanol, ethanal, carbon disulfide, chloroform, carbon tetra chloride, benzene and acid. It is practically ifsoluble in petraether.⁷

Local lesions caused by the beetle are seldom serious and yields to a soothing application like calamine lotion. The effect of the venomous fluid can be prevented by avoiding all possible contacts with the insect. If in contact avoid crushing it on the skin. It will be worthwhile if more facts are known about this blister beetle presently raging havoc in our community so that its eradication will be possible in the near future.

Foot Note.

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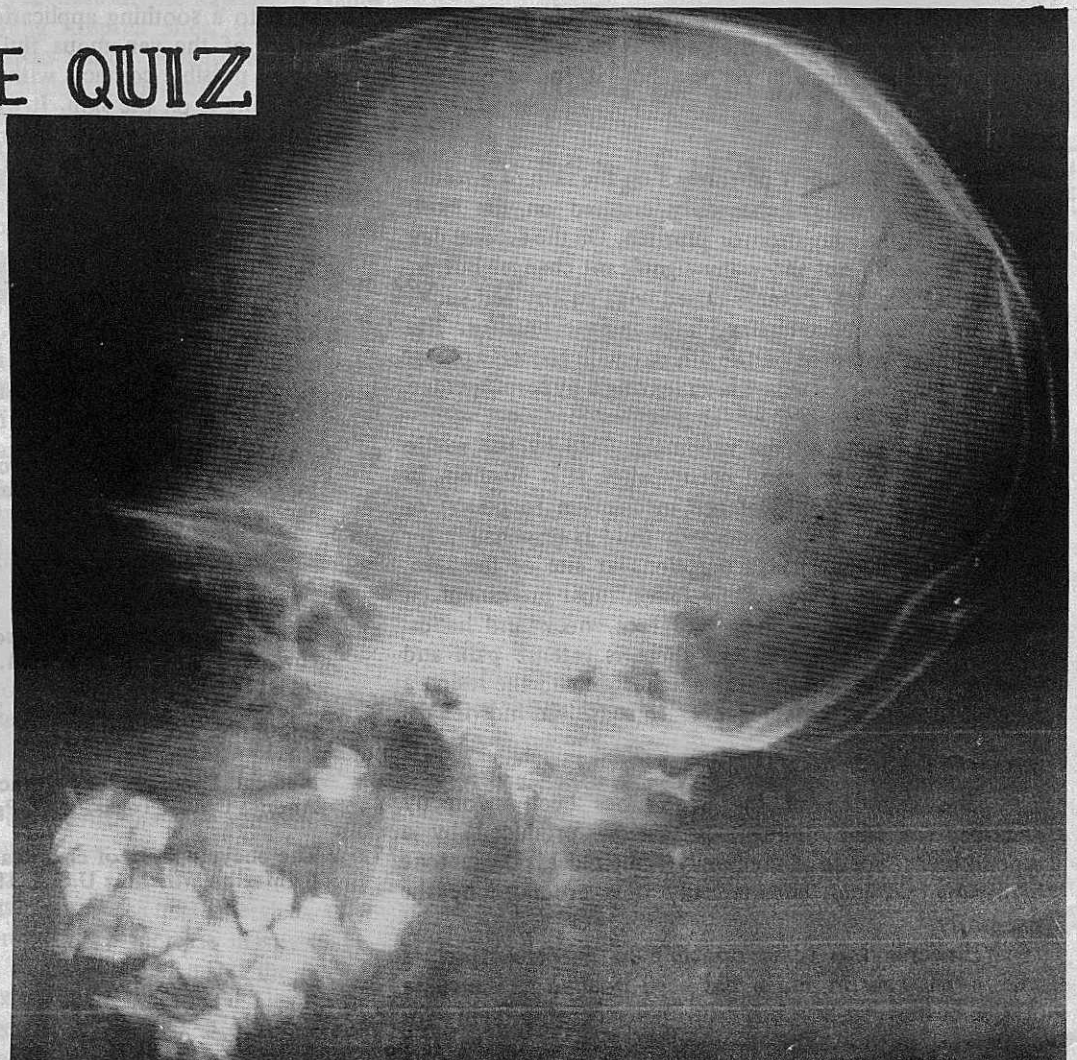
Urinary Tract: Intravenous urographic findings include: enlargement of the Kidneys, due to multiple space occupying lesions, bulging deformities of Kidney contours, distortion of renal pelvis, calyceal cup, or stretching and elongation of the calyces, calyceal or pelvic hydronephrosis with calycolosis and pelviectasis, and displacement of the ureters by retroperitoneal masses leading to hydroureter and back pressure changes in the Kidneys⁹. Cockshott⁸ observed that it is difficult to distinguish the renal outlines in plain films in African children because of the paucity of perinephric fat.

According to Cockshott⁸ renal angiographic findings include, absence of new vessel formation, and tumour "staining", displacing and stretching of normal vessels, and filling defects in opacified tissues.

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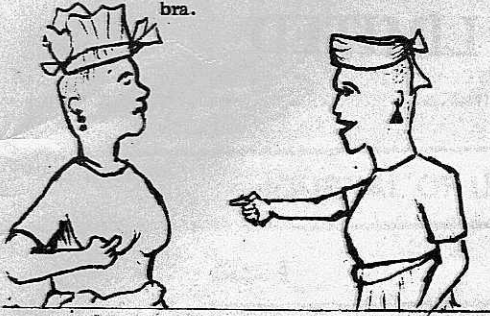
PICTURE QUIZ



Skull radiograph of a Burkitt's lymphoma patient
Identify all the skeletal lesions present?

At the market

Mrs. Akweke meets mama Okon who thinks the lump in her breast is caused by the coin she (Mrs. Akweke) puts in her bra.



The lump was rapidly increasing in size and she is getting very worried.

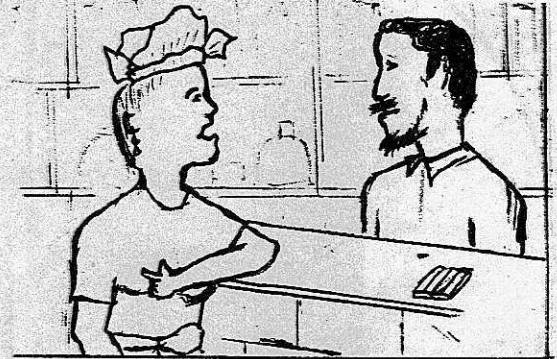


At Home

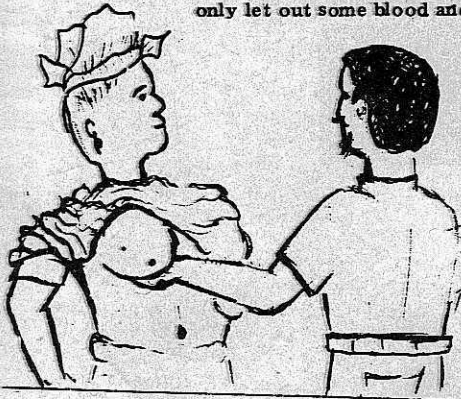
Akweke removes the coin and hopes to get better.



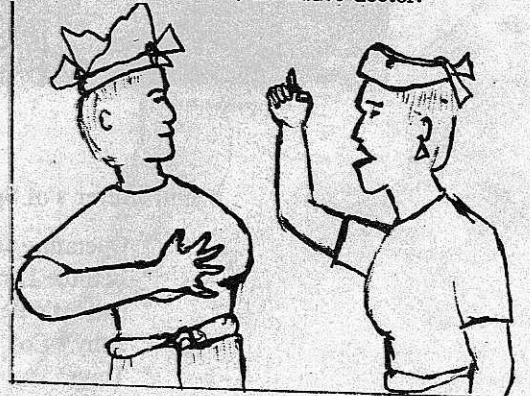
At the patent Medicine Store.



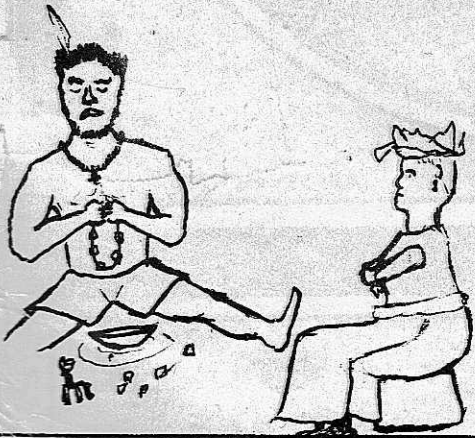
The store keeper thinks she has pus in the breast, but could only let out some blood and reassure her.



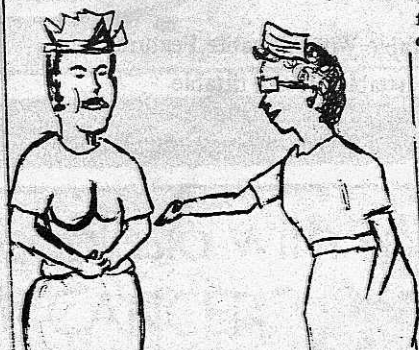
The adjacent breast became affected, so were the armpits and other parts of the body. Mama Okon suspects 'remote control' and advises her to see Awuzie, the native doctor.



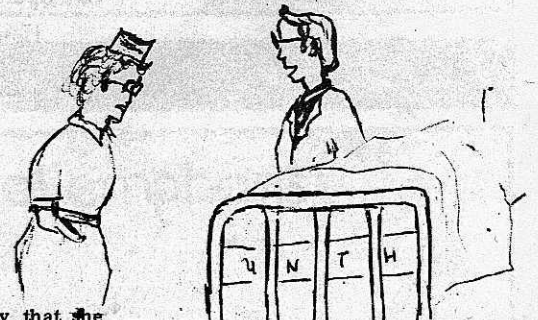
The native doctor made some incantations, let out some blood from the affected parts and rubbed some local herbs.



The affected parts were getting swollen, painful and foul smelling, so she complains to her niece (who was on holidays). She was immediately taken to her son in the city and rushed to UNTH.



This is likely to be "carcinomatosis with extensive abscess formation. If she had come early, her chances of survival could have been high" --- said the surgeon.

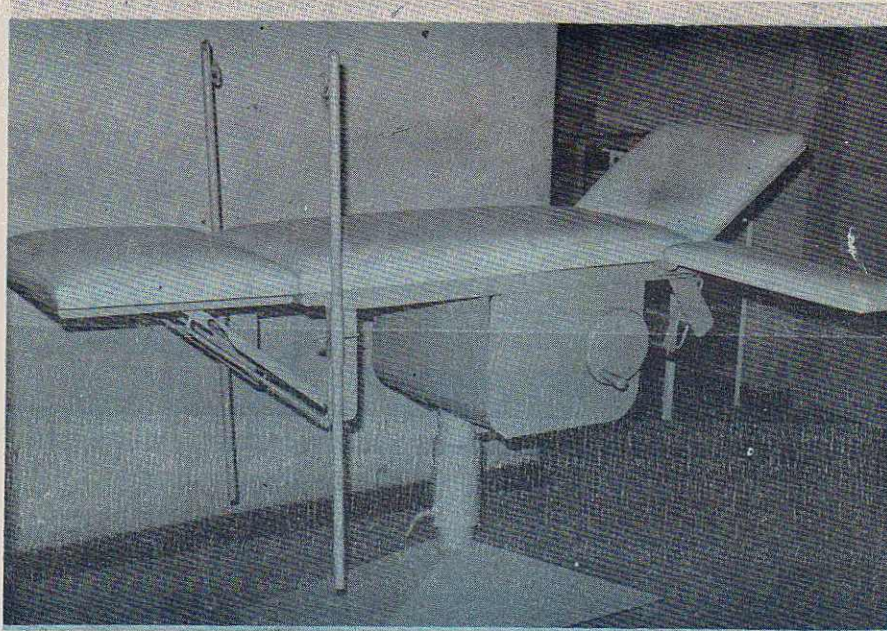


Guess what happened to this patient — Not only that she reported very late at a specialist centre, but the patent medicine dealer had fueled the spread of the cancer by his incision, while the native doctor allowed infection to supervene with his 'sterile' knife and magic herbs.

CANCER CAN BE TREATED IF YOU REPORT ON TIME,
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