THE SURGEON, THE KNIFE AND THE MAN.

ABDUL RASHID KAYODE ADESUNKANMI

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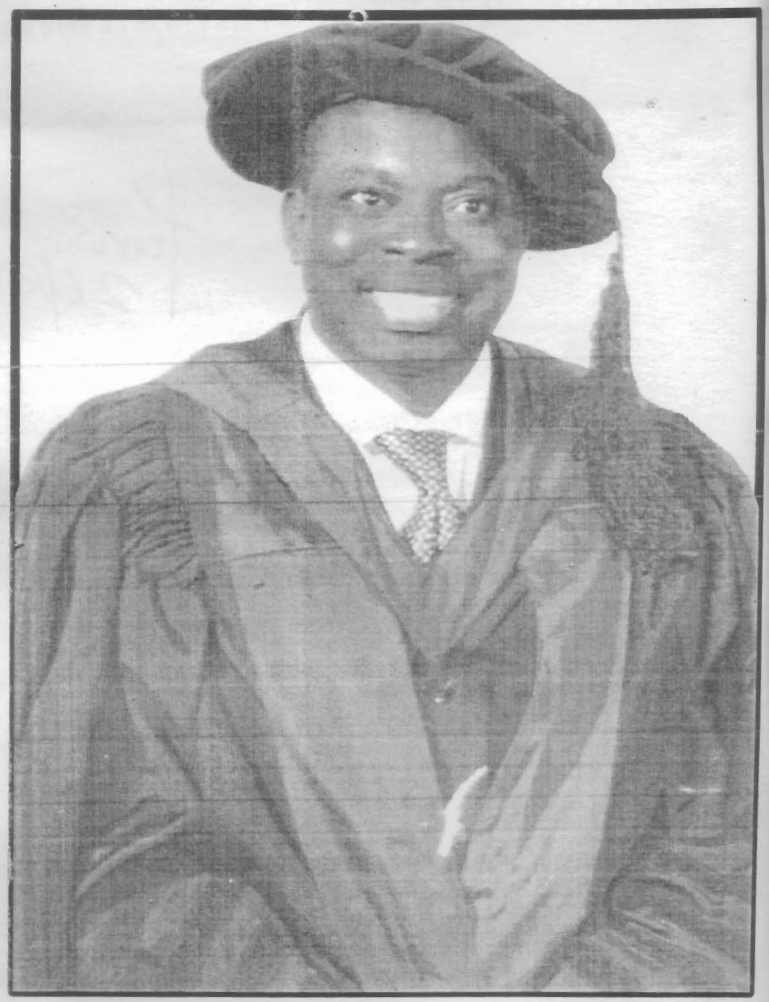

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THE SURGEON, THE KNIFE AND THE MAN.

To God be the glory, the Beneficent, the Merciful for giving me the opportunity to deliver this inaugural lecture, the 5th from the Department of Surgery and second of it's kind to be given by a General Surgeon in this prestigious University. Mr Vice-Chancellor sir, Ladies and Gentlemen, surgical operations are the most feared hospital procedures by laymen and hospital workers alike for the reasons of putting people to sleep, use of instruments some of which are frightening, causing wounds and fear of side effects. But, millions of souls and their families have been saved the agony of untimely death and loss of bread winners by the surgeons by putting "knife" into perspective.

INTRODUCTION.

The first man was created from clay, thereafter his partner, Eve, was created from a piece of rib from Adams' chest. To an average student of surgery, this was rib resection done to fashion out Eve; therefore, Almighty God was the first Surgeon and is the only Surgeon who knows how, when and where to redeem the diseases of the organs and remove the infirmity from man and we are just His agents.

What is Surgery?

Surgery is the art and science of working with the hands. It is derived from the Latin word *chirurgia* which in turn comes from the Greek word *cherous* (hand) and *ergon* (work). It deals with injuries, deformation and unhealthy physical changes of all kinds that require manual treatment with or without instruments[1].

Ambrose Paré, a 16th century French Surgeon, described surgery as follows: *"There are five duties in surgery: to remove what is superfluous, to restore what has been dislocated, to separate what has grown together, to reunite what has been divided and to redress the defect of nature."*

In 30 AD Celsus described an ideal surgeon as follows: *"A surgeon ought to be in early manhood, or at rate not much older, a swift and steady,*

never-faltering hands, and no less skill in the left hand than the right hand, have sharp and clear eye sight; appear undistressed and compassionate in as much as he wishes to heal those whom he treats, does not allow their cries to hurry him more than the circumstance require, or to cut less than necessary, and permits the groaning to make not the slightest impression on him in anything he does[1]*.".*

According to Theodor Bilroth 1829-94, a chief surgeon at the Vienna school Austria,: *"Surgeon is some body who knows how to operate, when to operate and who has the wisdom and humility to know when not to operate*[1]*".*

Surgery had been practiced since the creation of mankind by those who thought they had the ability, temerity and those who fancied the practice of surgery. It took centuries of unwholesome practices by charlatans, wayfarers, disciples of gods and their aids before little order was put into the practice of surgery and far longer time before any form of training was introduced. It was when surgical practice became science helped by the anatomical discovery of Andres Versalius in Pauda in 1537 and in 19th century, the conquest of triad of pain, infection and bleeding was responsible for advances in surgical practice which became more technologically driven in modern day practice. The increasing post-operative survival makes the surgeons to be more aggressive and more daring in venturing into difficult areas leading to enormous work load. Therefore, this brought about breaking down into specializations, super and sub specializations. General Surgery take care of superficial swellings of the whole body, diseases of endocrine glands like thyroid, pancreas and adrenal; breasts, many of the abdominal organs and Abdominal wall hernias[1,2].

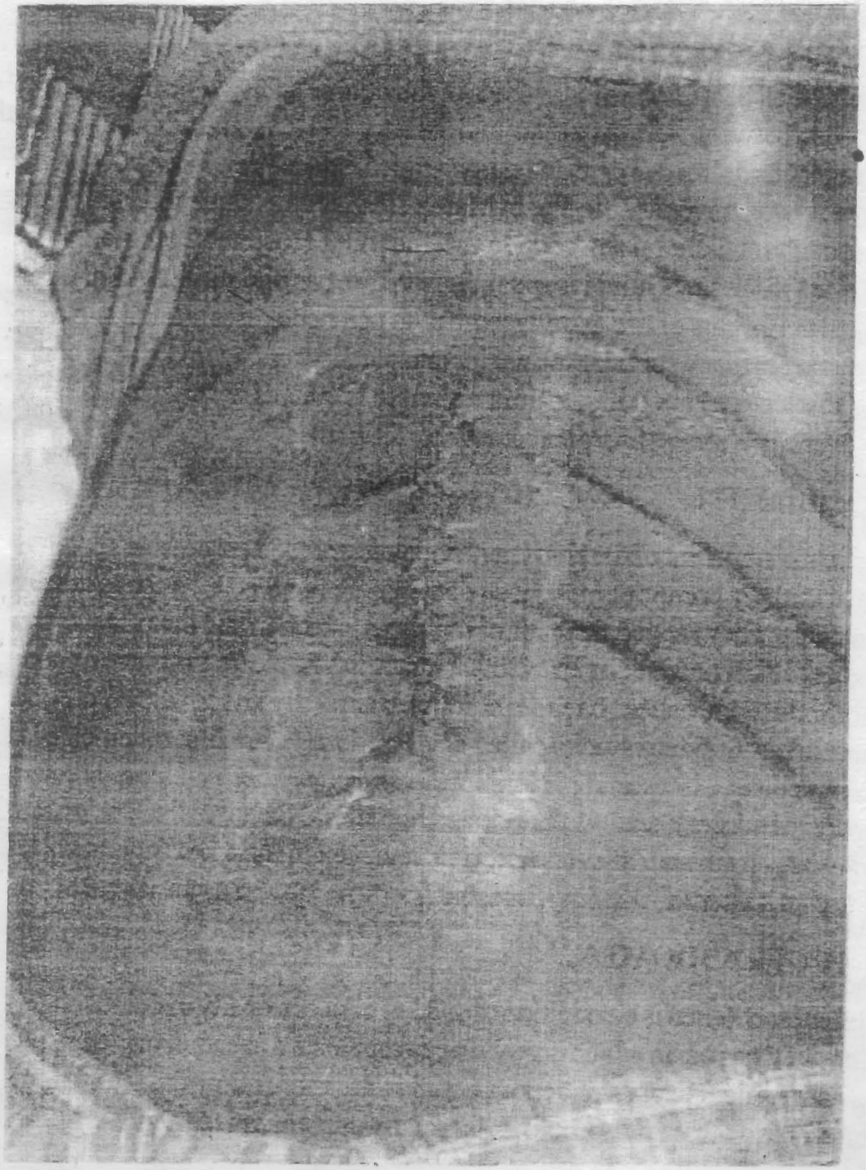

Figure i: A 42 year old patient from Benue State who has 8 oblique scars for "abdominal condition" from traditional healer and later presented with

generalized surgeon acute abdomen.

I chose to be a General Surgeon, in the course of my training in UCH, Ibadan between February 1986 and January 1991; I was trained in general surgery as defined above and other surgical specialties. I joined Obafemi Awolowo University, Ile-Ife, in March 1992 as a Lecturer and Honourary Consultant General Surgeon to the Teaching Hospital Complex, I was posted to Wesley Guild Hospital, Ilesa which has one surgical unit, where I spent 10 years of life putting "knife" to perspectives; and able to put my training in many surgical specialties into practice unhindered. In the course of this lecture I am going to limit myself to few areas where, I think, I have advanced course of surgical practice in Nigeria.

ABDOMEN.

The main content of the abdomen is our internal food processing apparatus; it has many components whose diseases are handled by gastrointestinal surgery. They ranged from the oesophagus to rectum and including special organs like pancreas, liver and biliary tract. Peptic ulcers, gallstones, cancer, bowel inflammation, haemorrhoids and hernia are among the commonest ailments. Sudden attacks called acute abdomen, are illustrated by acute appendicitis, intestinal perforation and intestinal obstructions. The same kind of surgery deal with abdominal trauma, be it multiple or isolated wounds from stab injuries and gunshots; which must be diagnosed early to check internal bleeding, intestinal perforation and organ rupture.

ACUTE ABDOMEN.

Acute abdomen is a condition of sudden or occasionally insidious onset of abdominal pain in which urgent surgical or medical attention may be needed. The surgical causes of acute abdomen are more common than medical causes in our environment. It is usually accompanied by peritonitis i.e. inflammation of the covering of most organs in the abdomen which may be local; when it is limited to a portion of the abdomen or generalized when it involves the entire abdomen and its viscera. All acute abdomen would start as localized infection, but as it progresses, the infection becomes severe and generalized with purulent exudates in all corners of intra-abdominal cavity. We looked into the causes of surgical acute abdomen in

Nigeria in work done in Abeokuta, Ibadan, Ilesa and Ife[3-14], we found that while acute appendicitis is the commonest cause of localized surgical acute abdomen[3], typhoid perforation took the front stage among the causes of generalized acute abdomen[5].

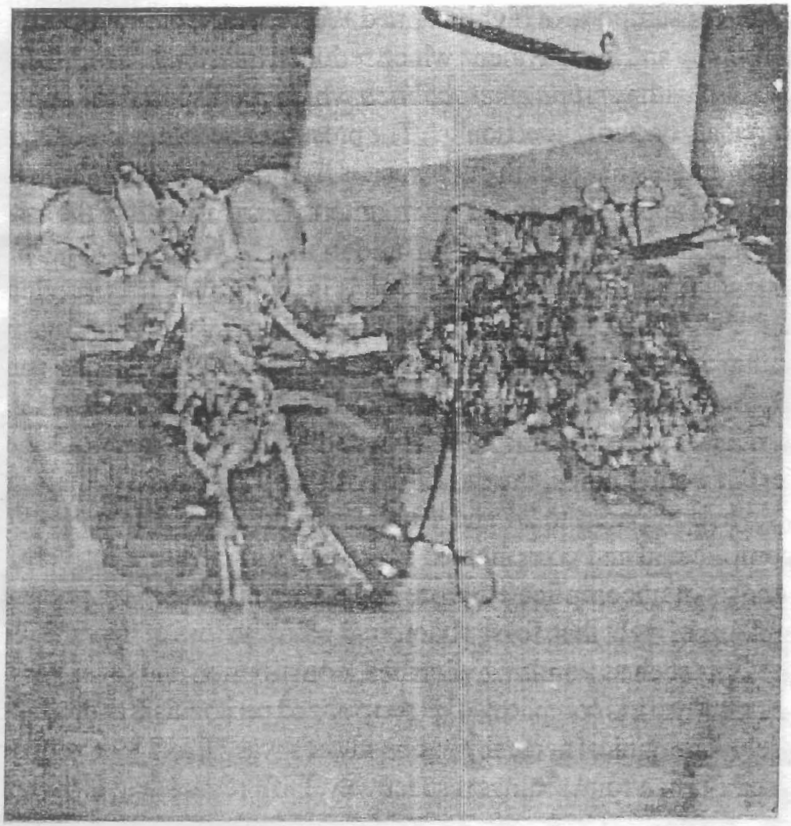

Figure ii: Showing intestine with its mesentery and dead foetus retrieved from abdomen of patient with acute abdomen due to undiagnosed abdominal pregnancy coexisting with normal intra-uterine pregnancy.

Acute Appendicitis.

Acute appendicitis is the commonest cause of localized acute abdomen all over the world. It was said to be uncommon among Africans but now it is commonly seen in urban and semi-urban/rural African communities. This is due to increase awareness about the disease, access to hospital care, increase consumption of highly refined Western diet, improved housing, water supply and level hygiene which reduced intestinal flora, leading to infestation with *yersinia enterocolitica* which predisposed the appendix to secondary bacterial infection[15,16]. The presumed aetiology is obstruction, most commonly a faecolith but parasites may have important role in the aetiology of appendicitis in our environment. Less than half of the cases of acute appendicitis have faecolith, and in these, lymphoid hyperplasia secondary to viral or bacterial infections is implicated. In our series, we found that acute appendicitis is common in both urban and rural communities with almost the same frequency. The epidemiological pattern, symptomatology and clinical findings in urban, semi-urban and rural communities were the same[3,4] and so were the findings in many of Nigerian cities[17]. In our studies, the durations of symptom was 3-4 days and 5 days[3,4] as compared to 24 and 48 hours in developed countries[17,18] in uncomplicated and complicated acute appendicitis respectively. The diagnosis of uncomplicated acute appendicitis is based on presenting symptoms of right iliac fossa abdominal pain and loss of appetite. Other symptoms such as vomiting, diarrhea, constipation and fever were not constant; when it is complicated by generalized peritonitis is another matter entirely. The clinical accuracy in our studies was 78 and 89.6% in urban and semi-urban/rural settings respectively. Differential diagnosis include inflammation of reproductive organs and right sided ectopic pregnancy in women of child bearing age group, mesenteric lymphadenitis in preschool children etc. It is better to remove normal appendix than to wait and allow acute appendicitis to be complicated by perforation or abscess formation. Perforation occurred in 9.3 and 22.4% of cases in urban[3] and semi-urban/rural[4] dwellers respectively in our studies, compared with about 6% in Caucasians[15]. There was high proportion of follicular hyperplasia (21%) and ova of parasites such as of Schistosoma mansoni, Toxoplasma gondi

and Trichuris trichura in 18.4% on histological analysis of appendix specimens in our patients. Mortality is rare even in African settings but it is associated with significant morbidity from wound infection and dehiscence, especially, when it is complicated. We discovered unusual finding of haemoperitoneum in one patient following appendicectomy for uncomplicated appendicitis[18].

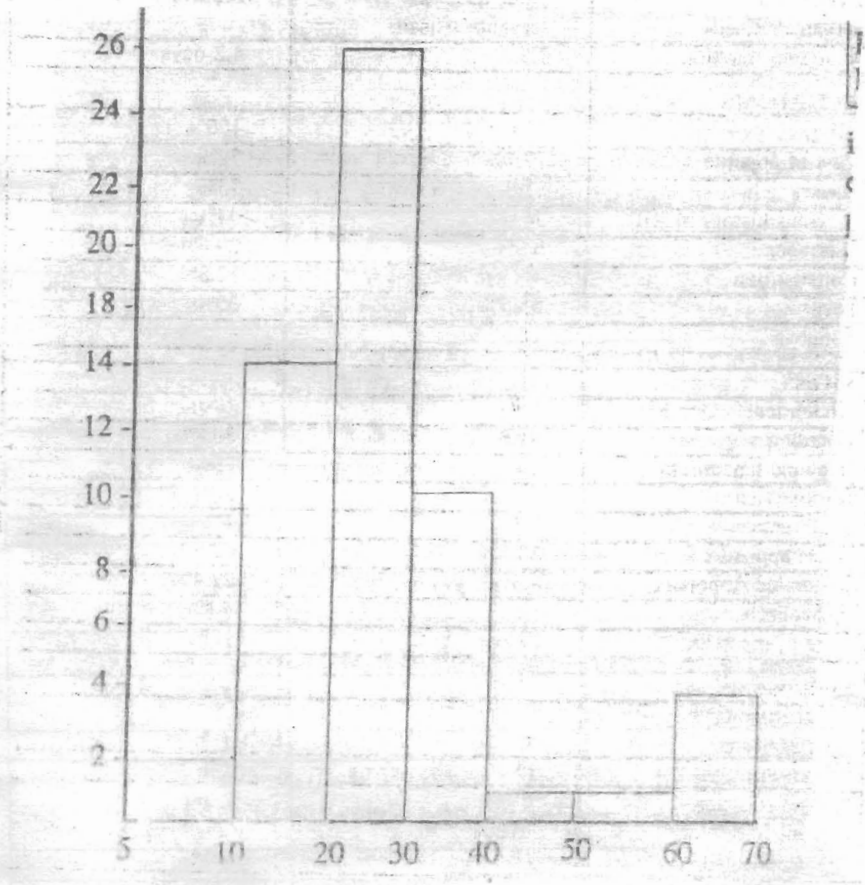

Figure iii: Showing age distribution of the patients with acute appendicitis

Table 1: Epidemiology Clinical Features, Diagnosis and Outcome Factors in appendicitis in urban and semi-urban/rural communities

	Urban (54 pts in 11months)	Semi-urban/rural (125 pts in 5yrs)
Mean age in yrs	25.4	24.2
Sex ratio	1.16:1	1.4:1
Occupation	Students/civil servants/artisans	Students/Civil servants/artisans
Symptom duration	3.5	4.2 days
SYMPTOMS		
RIF pain	100	100%
Loss of appetite	77.7%	72%
Nausea	37.5	73%
Previous history of RIF	76	44%
Diarrhoea	5.5%	20.8%
Constipation	-	12.8%
Fever	55.5%	35%
Vomiting	18.5	-
SIGNS		
Abdominal tenderness	100	100%
Guarding	81.5	80.8%
Rebound tenderness	77.7	73%
Rovsing sign	50	36%
R.I.F mass	3.7	4%
Acute appendix	68.5%	62.4%
Perforated Appendix	9.3%	22.4%
Appendix abscess	-	4.8%
Normal appendix	22%	10%
Outcome		
Mean Hospital stay – uncomplicated	5	6.7
Complicated	12	14
Wound infection– overall	20.3%	26.4%
-uncomplicated		8.3%
- complicated		66.7-78.7%
Wound dehiscence- overall –	7.4%	
Uncomplicated		2.1%
—complicated		35.7%
Mortality	-	-

GENERALIZED ACUTE ABDOMEN.

Generalized acute abdomen or peritonitis is a potential life-threaning condition; the causes are often determined by ethnic, environmental and sometimes clearly geographically defined factors[19]. It is a common abdominal emergency in many general surgical units all over the world[5,9,20] with associated high morbidity and mortality especially in the tropics[20]. Early diagnosis, fluid resuscitation, appropriate parenteral antibiotics, prompt surgical intervention, and thorough peritoneal lavage are standard forms of management to reduce morbidity and mortality[21-23]. The mortality rate exhibit considerable variation, from 0-76% depending on the causes and early presentation of the patients[24]. The broad causes in this environment are intestinal perforations, acute intestinal obstruction, trauma, acute inflammation and complications of large bowel cancer[5], similar to findings in developed countries but with different causes of these disease entities. While typhoid intestinal perforation is the leading cause in the tropics[20], perforation of large bowel cancer and diverticuli are frequently seen in developed countries[23-25]. Generally in this environment, more males are affected than females in ratio of 3:2 and mean age was 35.6 years[5,20]. We discovered that operating on these patients was froth with accidental sharp injuries and bodily contamination with patients' blood and body fluids thus exposing the surgeons and assistants to risk of blood borne infections like HIV/AIDS and serum hepatitis[26].

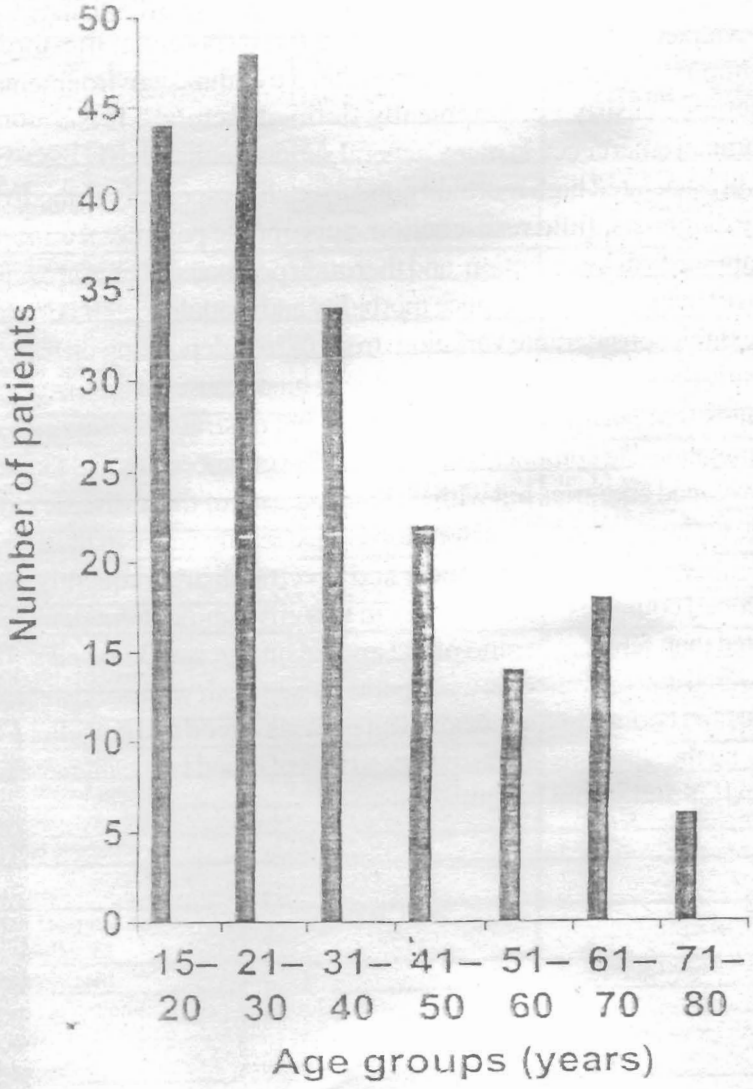

Figure iv: Distribution of patients with generalized acute abdomen into age groups.

Table 2: Causes of general surgical acute abdomen or peritonitis.

Causes	No of pts	Percentage
Intestinal perforation		
Typhoid	44	24.2
Acute appendicitis	22	12.0
PUD perforation	22	12.0
Idiopathic jejunal and caecal	2	
Acute intestinal obstruction		
Small/large intestinal Volvulus with ischaemia and peritonitis	26	11
Postoperative adhesion	8	4.4
Intussusception	3	1.6
Trauma		
Intestinal injury	9	5
Postoperative anastomotic dehiscence	4	2
Uterine injury from TOP	3	
Inflammation		
Intra-abd. Abscess	18	10
Acute appendicitis	9	5
Typhoid enteric fever	4	2
Ruptured liver	3	1.6
Malignant tumours	3	1.6
Stomach (perforation)	1	
Colorectal (obstruction & perforation)	2	
Other causes	4	2

Figure v: A Young boy with neglected generalized acute abdomen with pus in the peritoneal cavity with intra-peritoneal drainage.

Gastrointestinal perforations.

Gastrointestinal perforation, from various causes, is the commonest cause of generalized acute abdomen. It is common in Nigerian environment,

with associated high morbidity and mortality; even after treatment with all the conventional means[5]. Outcome depends on many factors; most important being the causes of perforation, extent of faecal peritonitis, delay in presentation and overwhelming gram negative septicaemia which may lead to multiple organ failure in about 30% of cases. In a study of the pattern and causes of intestinal perforation in this community, it was discovered that typhoid ileal perforation remains the commonest in 58%, followed by perforated appendicitis in 16.3% and perforation of PUD in 14%[20]. The means of ages differ with causes of perforation; with typhoid been 21years, the appendix 34.5 years, while PUD was 42.4 years. Apart from the history which was distinguishing factors, clinical findings were that of secondary bacterial peritonitis irrespective of aetiology. The outcome was significantly influenced by the causes of perforation, delay in presentation, delay in surgery and the degree of faecal contamination[20].

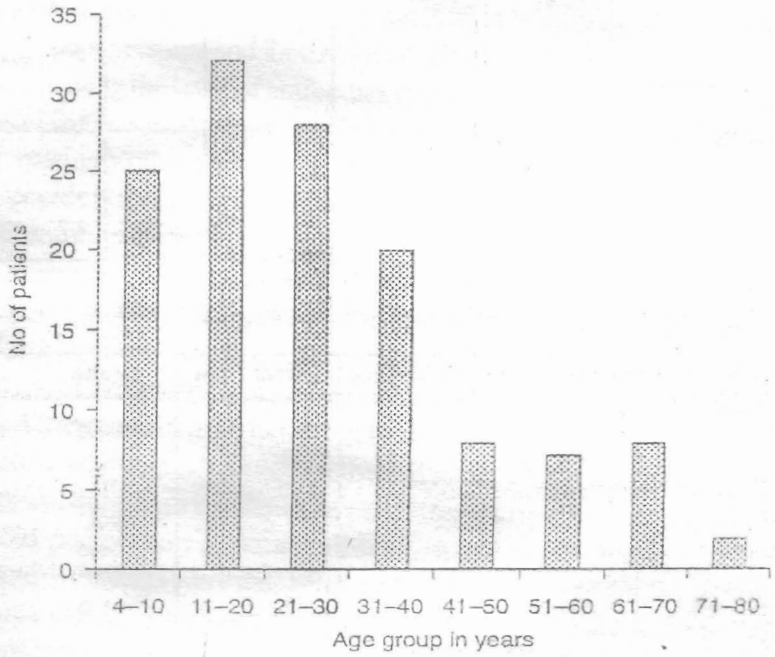

Fig vi: The distribution in age groups of patients with intestinal perforations in semi-African community.

Table 3: The distribution of means of age, sex, postoperative complications, and mean hospital say of different causes of intestinal perforation.

	Typhoid, n=75(58%)	Acute appendicitis n =21(16.3%)	PUD, n=18 (14%)	Trauma, n=9 (6.3 %)	Others , n=6
Male n=96	61	12	15	7	2
Female n=33	14	9	3	2	4
Means of ages	21	34.5	42.4	47.2	42
Wound inf n=74	52 (69.3)	11(52.3)	6 (33.3)	3 (33.3)	2 (33.3)
Wd dehiscence n=30	19 (25.3)	6 (28.6)	3 (16.7)	2 (22.2)	-
Chest inf n=15	10 (13.3)	2 (9.5)	2 (11)	1 (11)	-
Residual abd abscess n=14	8 (10.7)	4 (19)	2 (11)		-
Abd sepsis n=11	7 (9.3)	1 (4.8)	2 (11)	1 (11)	-
Incisional hernia n=10	7 (9.3)	3 (14.3)	-	-	-
Stitch abscess n=3	3 (0.4)	2 (9.5)	-	-	-
Organic psychosis n=3	3 (0.4)	-	-	-	-
Intestinal obstruction n=3	3 (0.4)	-	-	-	-
Faecal fistula n=3	3 (0.4)	-	-	-	-
Acute renal failure n=3	3 (0.4)	-	-	-	-
Death n=24	14 (18.7)	3 (14.3)	2 (11)	3 (33.3)	2 (33.3)
Means of hosp stay	20.5	14.5	14.6	26	8.7

Table 4: Factors influencing the outcome in peritonitis resulting from intestinal perforations.

Independent factors	Dependent outcome variable	Partial F-test	p-value
Age	Diagnosis	6.84	0.0005
	Pus volume	2.81	0.01
	Faecal fistula	3.16	0.01
	Other complications	4.6	0.001
Diagnosis	Wound infection	7.17	0.0005
	Mortality	4.9	0.0005
Pus vol (perit. Cavity)	Mortality	43.6	0.0005
	Other complications	3	0.001
Wd infection	Wd dehiscence	18.3	0.0005
	Intra-abd abscess	2.3	0.05

	Incision hernia	4.6	0.005
	Mortality	4	0.0025
	Other complication	8	0.0005
Wd dehiscence	Faecal fistula	3.5	0.005
	Incisonal hernia	2.3	0.05
	Hospital stay	3.7	0.0025
Intra-Abd abscess	Intra-abd sepsis	12.5	0.0005
	Chest infection	3.6	0.0025
Intra-abd sepsis	Faecal fistula	5.0	0.0005
	Other complication	25.5	0.0005
	Hospital stay	6.8	0.0005
Faecal fistula	Mortality	5.2	0.0005
	Other complications	3	0.01
Mortality	Hospital stay	26	0.0005

Typhoid intestinal perforation.

Typhoid enteritis, caused by Salmonela typhi, is a disease of low socioeconomic countries of Asia and Africa because of the poor water supply, poor personal and food hygiene. The method of diagnosing typhoid enteritis using the level of antibodies in the blood without pathognomonic clinical features is wrong and misleading. Perforation of terminal ileum and very sparingly other parts small intestine is the most common complication of typhoid enteritis seen in our surgical unit[20]. Typhoid perforation remained the commonest cause of intestinal perforation[21] and generalized acute abdomen[5,9] in our environment. Males were more affected 3-4 times than females; most of them were young students or artisans with mean age between 19-21years with indiscriminate eating habits7-9,[20,27,28]. The mean duration of symptoms before perforation was 7 days; various authors in West African sub-region have reported short pre-perforation incubation period which was attributed to the bacteria load and virulence of the organism, thus, high incidence of the perforations seen. The diagnosis of typhoid perforation remains clinical; in our experience clinical and laboratory findings were that of secondary bacterial peritonitis, and blood cultures yielded gram–ve enterococcal organisms in all our patients. Pneumoperitoneum on plain abdominal radiograph, usually, a sign of massive or multiple perforations occurred in less than half of our patients.

Adequate resuscitation with intra venous fluids, correction of electrolyte imbalance, especially serum potassium and antibiotic therapy is mandatory before surgery. The surgical procedures included insertion of peritoneal drain under local anaesthesia in moribund patients, excision and closure of the perforation in single or double layers, and excision of segment of ileum in multiple perforations with ileoileal or ileotransverse anastomosis. Addition of tube ileostomy and ileo-hemicolectomy are of doubtful value and not recommended in these surgically poor risk patients; as extensive surgical procedure may worsen the prognosis. Excision of the perforation and closure in two layers with chromic catgut and silk is the most widely practiced surgical method. The mortality rate was very high without surgical intervention at about 70-100% and only 25-30% with surgery[29]. We recorded mortality of 20.5-28% in our patients; wound infection rate was between 57-66%, wound dehiscence of 25-34%, others are intra-abdominal abscess/sepsis, chest infection and faecal fistula similar to findings in other developing countries. The mortality is related to toxaemia, septic shock and multiple organ failure and influenced by risk factors such as late presentation, delayed operation, multiple perforations, severe faecal contamination of peritoneal cavity, and postoperative faecal fistula.

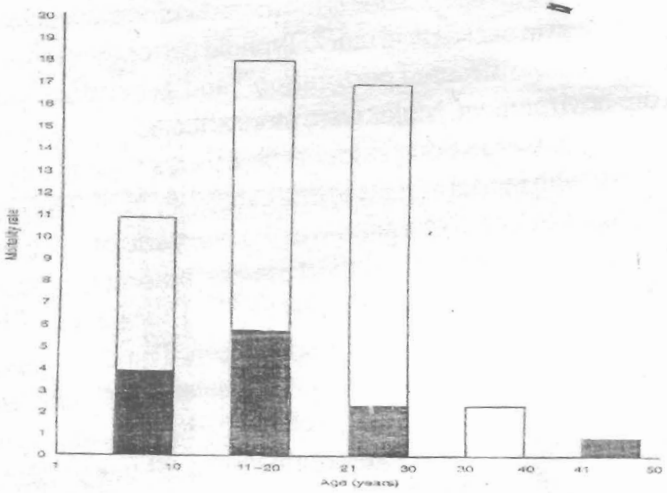

Fig vii: Distribution of death with age stratification in Typhoid perforation.

Table 5: Postoperative complications and number of perforations in typhoid perforation

Complications	Single perforation	Multiple perforations	Degree of freedom	Fisher exact test	p-value
Wound infection	29	4	1	0.285	>0.05
Wound dehiceence	16	1	1	1.410	>0.05
Residual intra-abd. Absc	3	1	1	12.637	0.0005
Faecal fistula	1	3	1	13.437	0.0002
Death	7	7	1	20.930	0.0000
Total	43	7	1		

Typhoid perforation and perforated appendicitis.

Typhoid perforation as the leading cause of generalized acute abdomen closely resemble perforated appendicitis in its clinical features and pathophysiology but with different outcomes. The two conditions were compared, it was discovered that they were quite different from one another in duration, severity of symptoms and postoperative outcome. While fever was early onset and always present in typhoid perforation, it was late onset and occasional in perforated appendicitis. There were high postoperative complications in typhoid perforation than perforated appendicitis. While there was no mortality in perforated appendicitis, it was 28% in typhoid perforation[7].

Table 6: Comparison between typhoid and appendicitis perforation

	Typhoid Perforation	Perforated Appendicitis	p- value
Sex ratio	4:1	2:1	>0.05
Mean duration of symptoms (days)	11.28+8.5	5.4+6.2	<0.05
Mean duration of peritonitis (datys)	2.75 +0.57	2.62+3.7	>0.05
Mean duration of pre-admiss. Antibiotics (days)	2.82+.3.46	2.80+2.5	>0.05
Mean of pus drained	649ml	302ml	<0.05
MEAN OF INTERVAL BTW OPERATION (DAYS)			
Wound infection	5.25+7.3	6.4+6.2	>0.05
Complete wound healing	17.86+4.3	13.92+12.4	<0.05
POSTOPERATIVE COMPLICATIONS			
Wound infection	33	7	<0.05
Wound dehiscence	17	1	<0.05
Faecal fistula	4	0	<0.05
Residual intra-abd abscess	4	4	>0.05
Mean duration (Hospital stay in days)	20+9.3	13+4.5	<0.05
Mortality	14 (28%)	0	<0.05

Delayed Primary Closure of Abdominal wounds in typhoid perforation and perforated appendicitis

Delayed primary closure is as a technique of closing contaminated surgical or accidental wounds, which has been previously prepared after an initial period of delay but without wound revision. It had been practiced for over 200 years and was further popularized by French surgeons during the First World War. Its value in reducing wound infection rate in contaminated and dirty wounds of general surgical origin had been propagated for many years[40]. We studied the value of delayed primary closure in reducing postoperative wound infection, in a case controlled study[8,30]. Wound infection rates in typhoid perforation and perforated appendicitis in study and control groups were not different. In fact, wound dehiscence rate was slightly higher and severe in the study group of patients

with typhoid perforation. We, therefore, concluded that the degree of wound contamination from faecal peritonitis occurring in these two conditions overwhelmed the supposed value of delayed primary closure. Though, we were unaware of previous studies of this nature in typhoid perforation for comparison; but many reports of this technique in perforated appendicitis have not justified the indiscriminate use of delayed primary closure.

Table 7: Distribution of postoperative complications in delayed primary closure as compare primary closure abdominal wound in 44 patients with typhoid perforation and perforated appendicitis.

Postop Complications	Typhoid perf. Delayed pry closure	Typhoid perf. Pry closure	Append. Perf. Delayed Pry closure	Append. Perf. Primary closure
Wound infection	17 (70.8%)	14 (70%)	10 (41.7)	9 (37.5%)
Wd dehiscence	9 (37.5%)	7 (35%)	-	-
Intra-abd abscess	2 (8.3%)	2 (10%)	-	-
Faecal fistula	2 (8.3%)	2 (10%)	-	-

APACHE II and generalized acute abdomen.

Early prognostic evaluation is desirable to select high-risk patients for more aggressive treatment and provide objective classification and assessment. Grading severity of generalized acute abdomen has assisted, in a large way, in decision-making, improve and evaluating new therapies, monitoring resources utilization and improving quality of care[31]. The introduction of Injury Severity Score by Bakers *et al*[32] in 1974 and Abbreviated Injury Scale in 1981[33] successfully opened the avenue for further development of other severity grading systems. Among these, were those developed for grading severity of generalized acute abdomen[34,35]. Knaus and his colleagues first designed Acute Physiological And Chronic ill-Health Evaluation (APACHE I) in 1981 for assessment of patients in ICU, in 1985 APACHE II followed and in the 90s APACHE III came out[34]. Acute Physiological And Chronic ill-Health Evaluation II (APACHE

II) was developed from a mixed group of severely ill-medical and surgical patients[34]; it had been successfully used by many authors to assess critically ill general surgical patients[35,36]. Its parameters showed stronger relationship to outcome than previous groupings such as anatomy, causes, abnormality, age and chronic ill-health without consideration for the systemic state. In developed countries, it is the most widely used and accepted for its easy applicability and ability to predict outcome in generalized acute abdomen. In order to grade severity and have an objective assessment of our patients before surgery; we studied APACHE II parameters in patients with generalized acute abdomen[5,28,37]. We found that high APACHE II scores were significantly associated with poor outcomes; the scores ranged from 0-18, mean score was 7 in all the patients, 5.7 in survivors and 12.3 in non-survivors; the morbidity and mortality rates increased with increase APACHE II scores.

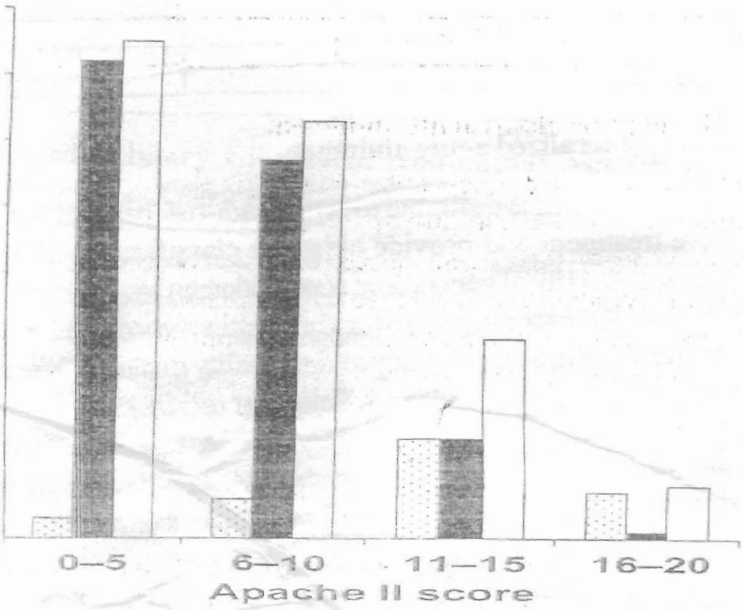

Figure viii: Distribution of the mortality, survivors and total number of patients in various APACHE II scores.

Acute intestinal obstruction as a cause of acute abdomen.

In the tropics, cases of acute intestinal obstruction are not uncommon and majority of the patients presented very late when pathophysiological effects were in advanced stages. It used to be most common surgical emergency, now there is a reversal of role between acute intestinal obstruction and typhoid perforation. The aetiological pattern varies from country to country and it is changing in Nigeria. Although, the local and systemic effects of the clinical features resulted in the same pathophysiology irrespective of the cause of the obstruction and very challenging, hence, it is important to pay attention to these[38,39].

We discovered the changing pattern of acute intestinal obstruction in our community; postoperative adhesions with or without intestinal gangrene accounted for 41.6% and complicated hernia in16.9%[40]. In the past, complicated groin hernias of high acute intestinal obstruction in Africa; it accounted for between 37 – 52% in Nigeria, about 65% in Ghana, Sierra Leone and Uganda. This is due to the fact that, nowadays, more abdominal conditions and groin hernias were being operated on elective basis all over the country, thus, increasing the incidence of postoperative adhesions and reducing the number of complicated hernia. Generally, the sex ratio was 1.7:1 in favour of males and the mean age varies with the causes of acute intestinal obstruction, majority of the patients were in their prime. 87% of groin hernias were male whereas most cases of intussusceptions were children. Sigmoid volvulus accounted for 10.6% of our cases, unlike Ghana, Kenya, Zimbabwe and Uganda where sigmoid volvulus was very common[41]. Ascaris lumbricoides bolus causing intestinal obstruction was seen in only 3.5%, unlike 20-26% in the previous studies. The rare causes of acute intestinal obstruction were large bowel cancer[40] and abdominal coccoon[42] in our studies. These patients were high-risk patients at induction of anaesthesia, intra and postoperative period with morbidity and mortality rates of 0.7 -16.2% and of 8.5% respectively in our cases.

Table 8: Operative diagnosis in 142 patients.

Operative diagnosis	No of pts	Percentage
Postoperative adhesion with or without volvulus and gangrene	59	41.5%
External hernia (intestinal gangrene in 16 pts)	24	16.9%
Small intestinal volvulus including 15 cases due adhesions, 18 pts with small intestinal gangrene	20	14.1%
Intussusceptions	20	14.1
Large bowel volvulus (bowel gangrene in 12 pts)	15	10.6
Ascaris lumbricoides bolus	5	3.5
Large bowel cancer	4	2.8
Small intestine gangrene without obvious cause.	3	2.1
Ilea stenosis	3	2.1
Internal hernia	2	1.4
Ilea pseudo obstruction	2	1.4

TRAUMA

In developed countries, trauma is the leading cause of morbidity and mortality among children and young adult[43] In middle income nations of Latin America and Asia, trauma now out-ranks infectious diseases as a cause morbidity and mortality[44,45]. In developing countries, infectious diseases predominated in the past, but now trauma is becoming a significant causal factor in disability and death[45,46-48] of people in their prime. This is

due to increase in sophistication, vehicular traffic, and violence resulting from socio-political misunderstandings in both urban and semi-urban African communities. Developed countries and some emerging nations have put in place adequate facilities to take care of accident victims and treat the resultant complications; in Nigeria, trauma has become a neglected epidemic. Among 1224 children who presented with trauma at Wesley Guild Hospital, Ilesa[46]; RTA accounted for 324(26.5%), falls in 305 (25%), foreign body inhalation or insertion into the nostrils in 122 cases (10%), bite in 8.8%, burns in 7.3% and others occurred sparingly. Although, injuries were trivial in most of the patients, about 25% of them were admitted, morbidity was in 6.4% and mortality in 19(1.6%). Although, these rates were relatively low, but when we consider the numbers of victims involved and their economic power; the importance to family and health spending would be discernible.

Table 9: Distribution of children among various causes of injuries

CAUSES of injuries	Total(%)	Males	Females
RTA	324 (26.5)	184	140
Falls	305 (25)	201	104
Others	167 (13.6)	116	51
Foreign body inhalation	122 (10)	58	64
Reptile/Animal bites	108 (8.8)	71	37
Burns	89 (7.3)	43	46
Accidental ingestion of poison	47 (3.8)	25	22
Cuts	43 (3.5)	33	10
Assaults	14 (1.1)	7	7
Gunshots	5 (0.4)	5	0

Road Traffic Accident.

Ninety percent of RTA cases were pedestrian children in collusion with moving vehicles while about 10% were passengers in automobile

crashes[49,50]. It is important to note that 60% were pedestrians on errand for adult relations or involved in hawking goods for sale; 25% were playing and only 15% were coming from school. About a quarter of the patients (25.3%) sustained head injury and more than half were severe, with Glasgow Coma Scale of 8 and below. The Injury Severity Score ranged from 1 – 54, in 94.4% of the patients ISS was 1-25, the morbidity and mortality increased with in ISS. RTA accounted for 9 out of 13 deaths, it was higher among passengers in the vehicles involved in accidents than pedestrians. This study brought to the fore the issue of child labour and lack of recreational venues in our society.

Falls.

Fall is major cause of non-fatal childhood injuries; it accounted for 22-27% and only superseded by RTA as a cause of injuries in many studies and accounted for

40%[51] of head injuries in preschool children. It accounted for 25% of childhood injuries in this environment[70], most of the injuries were trivial; however, 10% of head injuries were severe with skull fracture in two patients. Injury Severity Score (ISS) ranged from 1-26 with mortality rate of 0.6%[52]. Adequate supervision of children while they are playing is very important and child minders should be vigilant to prevent fall, therefore, saving the parents the agony and unnecessary morbidity and mortality.

Gunshot Injuries.

Accidental gunshot injuries, in non-conflict related situation, is very uncommon in children[53,54], it occurred in 0.4% in this community[46]. It is more common in adults, especially, during hunting expeditions with locally made guns in semi-urban and rural community. The incidence may escalate with increase proportion of high velocity guns with devastating injuries during armed communal conflicts. In developed countries and in urban centres in developing countries, high velocity guns are available to the criminals in the society leading to high morbidity and mortality rates from gunshot injuries. However, in semi-urban and rural areas, locally made shotguns are predominantly available, most of the time inflicting minor

injuries except when the range was close. During the crisis in Ile-Ife and environs[47], low velocity guns inflicted injuries in about 55% and high velocity guns were responsible in about 45% of the cases. Most of them were sustained in action, in young males in their prime and not gainfully employed. Eighty percent presented between 6 -12 hours and 34.6% had visited communal centres manned by traditional healers for the purpose of pellets extraction which had adverse bearing on the outcome. Lower and upper limbs with or without fracture were mostly injured, a testimony to the type of guns and poor marksmanships of the handlers. The systemic involvement ranged from 5.4%, in the head to 11.4% in the chest and 30% of abdominal injury. The mortality was low (8.6%) considering the contribution of high velocity guns to injuries; it was probably because non-fatal injuries were mostly presented in the hospital and those who were seriously wounded, especially, from the high velocity guns died in transit or while waiting at the communal centres for bullets extraction.

Burns.

Burns occur universally and in Nigeria the incidence of burns is increasing due to the complexities of modern living, ranking second to RTA among causes of violent death and the mental anguish caused the patients and their relations is enormous. The care of the patients is energy and resources sapping, with associated long hospitalization due to complications. In young adults, the commonest cause is industrial accidents in developed countries and petrol pipelines vandalization in Nigeria. It accounted for 7.3% of injuries in children in our community, largest proportion them were below the ages of 5 years who sustained injuries in form of scald at home from different hot fluids[48]. The wounds in some of the patients were managed with natural honey with good wound healing and when wounds were soaked in salt-water solution before dressing, the infection rates were significantly reduced[48, 55,56]. The commonest complication was wound infection in 24.4%, mostly, from Pseudomonas species. The mortality was 7.7%, most them occurred within two weeks of injury due to infections. It is important to note that 70% of them sustained burnt surface area of between 20-45%, percentage of burns higher than this were not common, thus, the low mortality since most hospitals in this country are ill-equipped to take care of very high percentages burns.

Table 10: Showing distribution of agent causing burns

Agents	No of pts (%)
Hot fluids...(steam, water and water-based liquid preparations)	79 (50.6)
Naked flame	68 (43.6)
Kerosene explosion	28
Structural flame	26
RTA	11
Petrol/diesel explosion	3
Hot ashes	3 (1.8)
Hot fomentation	2 (1.2)
Native concussion	1 (0.6)
Gunpowder explosion	1 (0.6)
Acid	1 (0.6)
Electric	1 (0-6)

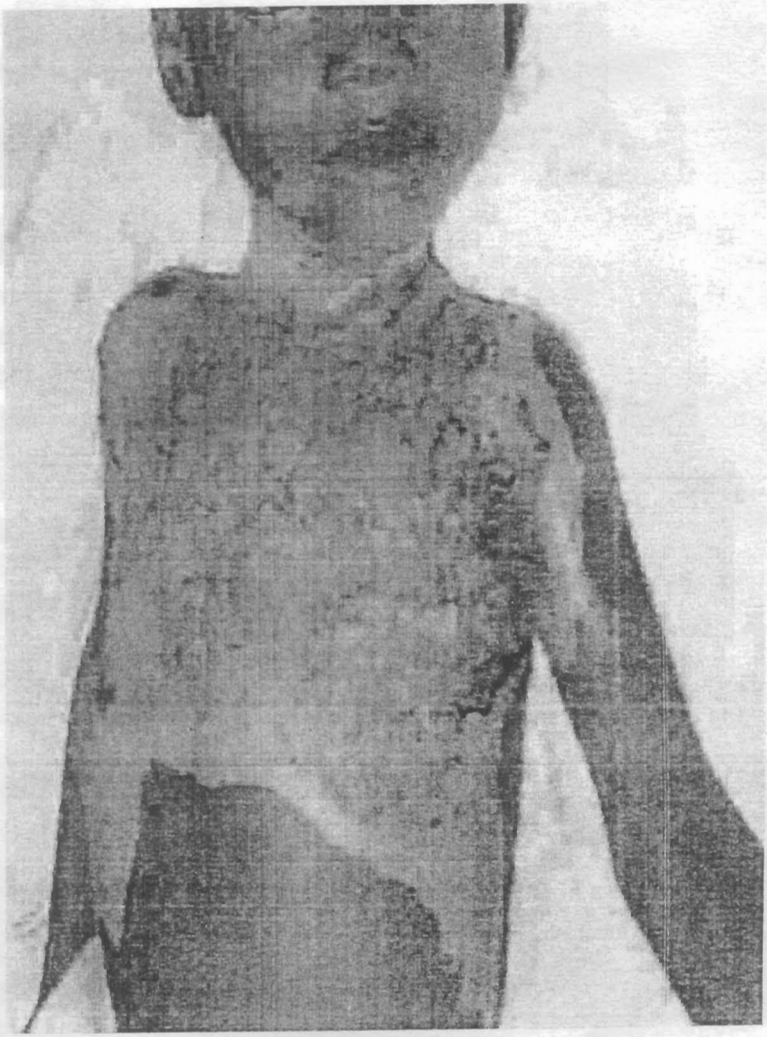

Figure ix: Infected burns wound been soaked in salt-water solution and dressed with natural honey in young boy.

Figure x: the same boy after salt-water solution bath.

IODINE DEFICIENCY AND GOITRE.

Iodine deficiency disorders are common health problem in the developing countries especially rural and semi-urban communities[57,58]. The commonest manifestation of iodine deficiency is non-toxic goiter – thyroid enlargement, which in our study[59] accounted for 93.5% of thyroid diseases. Less common manifestations, especially in Africans, are hypothyroidism, deaf-mutism, mental retardation, psychomotor disorders, foetal wastage and congenital neonatal malformations in pregnant women[60]. In the past, the community prevalence of multinodular non-toxic goiter was between 16-34% in Ife/Ijesa areas[61] and 20% among the school children[62]. The water from stream, rivers and wells had, also, been found to be deficient in iodine[63]. Poorly processed cassava consumed in certain parts of Nigeria and some types of edible vegetables had been found to have high concentration of goitrogens, thus, high goiter rate in these areas[64]. The iodine level in individuals can be effectively improved by iodization of common salt; despite this, iodine deficiency can be more acute among young pre-pubertal girls, pregnant women, lactating mothers and neonates. To prevent the effects of iodine deficiency in neonates, the Endocrine Society in United States of America adopted screening program for pregnant women for sub-clinical hypothyroidism[65]. Iodine status of individuals can be determined using urinary iodine levels and in developing countries where laboratory facilities are poor, goiter rates in the community had been found to be reliable indicators. In order to evaluate iodine levels among pregnant women, a survey of 700 subjects was carried out at Ilesa[66], the goiter rate was found to be 92.2% from Grade 1a that is barely palpable thyroid gland to Grade 3 - thyroid enlargement visible from distance of 10m or more away. We discovered that 99% of salt samples of the surrounding markets were iodized. We therefore, inferred that the iodine intake was suboptimal in pregnant women and; we, suggested the use of iodine capsules as part of regular antenatal drugs as a form of special iodine supplementation in addition to iodization of salt in the community.

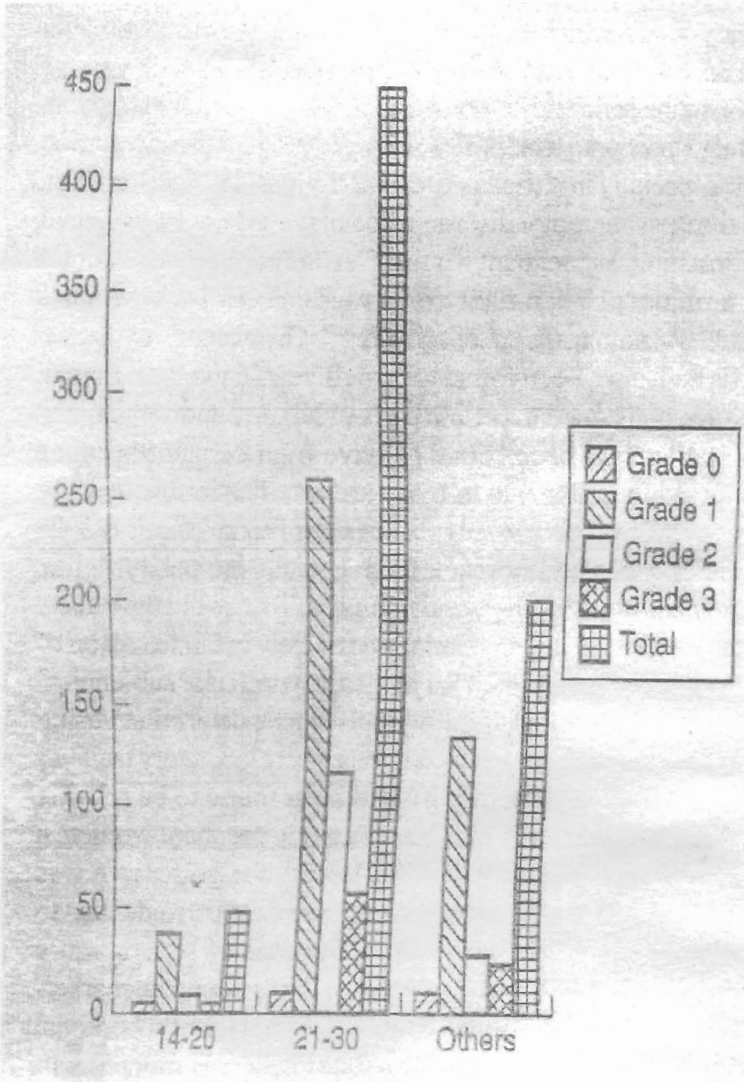

Figure xi: Distribution of goiter rates among various agegroups.

Figure xii: Simple multinodular goiter in a woman.

ABDOMINAL WALL HERNIAS.

Surgery for abdominal wall hernia remains the most common elective general surgical operation[67]. Hernia is thrice commoner in Africans than in Caucasians, inguinal hernia is by far the commonest type of abdominal wall hernias[68,69]. In the past, complicated groin hernias were the leading causes of intestinal obstruction all over the world[69,70]. This has changed, only about 17% of acute intestinal obstruction was caused by complicated groin hernias in our experience[71]. Post herniorrhaphy complications were infrequent; it may, however, assume a higher significance because of the large number of herniorrhaphy done annually, especially, in developing countries. The morbidity exerts great demand on the hospital and patients' resources through hospital bills and loss of man-hours at work with enormous effect on productivity.

It accounted for 21.5% of all operations in our unit[71] as compared with 10-15% in developed countries[67,68]. About 90% of the patients were male and the mean age was 51.4 years, mostly in farmers either as full-time or part time occupation. Ninety-two percent were groin hernias of which 88.3% were inguinal or inguinoscrotal hernias; other forms of abdominal wall hernia occurred sparingly. Eighty percent of inguinal or inguinoscrotal hernias were indirect and the few direct hernia occurred in elderly patients with muscle and fascia weakness[71] similar to findings in developed countries[72]. In 51.2% of the patients aged 50 years and above had co-morbid conditions such as prostatic enlargement, cardiopulmonary and other systemic pathologies[73]. In patients with BPH, we were able to operate on them at the same time using properitoneal approach which gave assess to hernia and prostate without significant increase in operation time, good wound outcome and no increase in morbidity and mortality rates. In one of our studies, 26.4% presented as emergency with obstructed or strangulated hernia[74] with gangrenous intestinal segment in 5.8% of the cases. Local anaesthesia was used for operation in majority of patients and they were discharged the same day[71,73,74]; this is the preferred anaesthetic technique to avoid intra and postoperative complications from general anaesthesia. The effectiveness of local anaesthesia was further

proven as all our patients operated with this method did well,[75] when sedatives were added outcome was excellent and the patients expressed their satisfaction[76]. Postoperative morbidity ranged from 0.28 – 16%, scrotal oedema and wound infection were the most common postoperative complications. Mortality rate was 0.8%, mainly, in elderly patients who presented with complicated hernia. The age, presence of complications, other associated diseases, and inguinoscrotal hernia were factors that contributed to poor prognosis.

Table 11: Diagnosis in 416 patients with abdominal wall hernias

Diagnosis	**No of pts (%)**
Inguinal hernia	226
Inguinal scrotal hernia	142
Femoral hernia	15
Umblical or paraumbilcal hernia	13
Lumbar hernia	6
ANALYSIS OF INGUINAL OR INGUINOSCROTAL HERNIAS	
Right side	187
Left side	136
Bilateral	45
Indirect	338
Direct	30

Table 12: Showing associated diseases in the patients 50 years and above.

Lower urinary tract obstruction	76 (30.4)
Benign prostatic hypertrophy	59
Acute urinary retention	14
Carcinoma of prostate	3
Cardiopulmonary diseases	66 (26.4)
Chronic obstructive airway disease	26
hypertensive	10
Cardiac diseases	6
Pneumonia	2
PTB	2
CVD	2
Haemorrhoid	6 (2.4)
Gonococcal urethritis	5 (2)
Hepatitis	2
Primary liver cell carcinoma	2
Renal problems	2
Fournier's gangrene	2
Tetanus	1

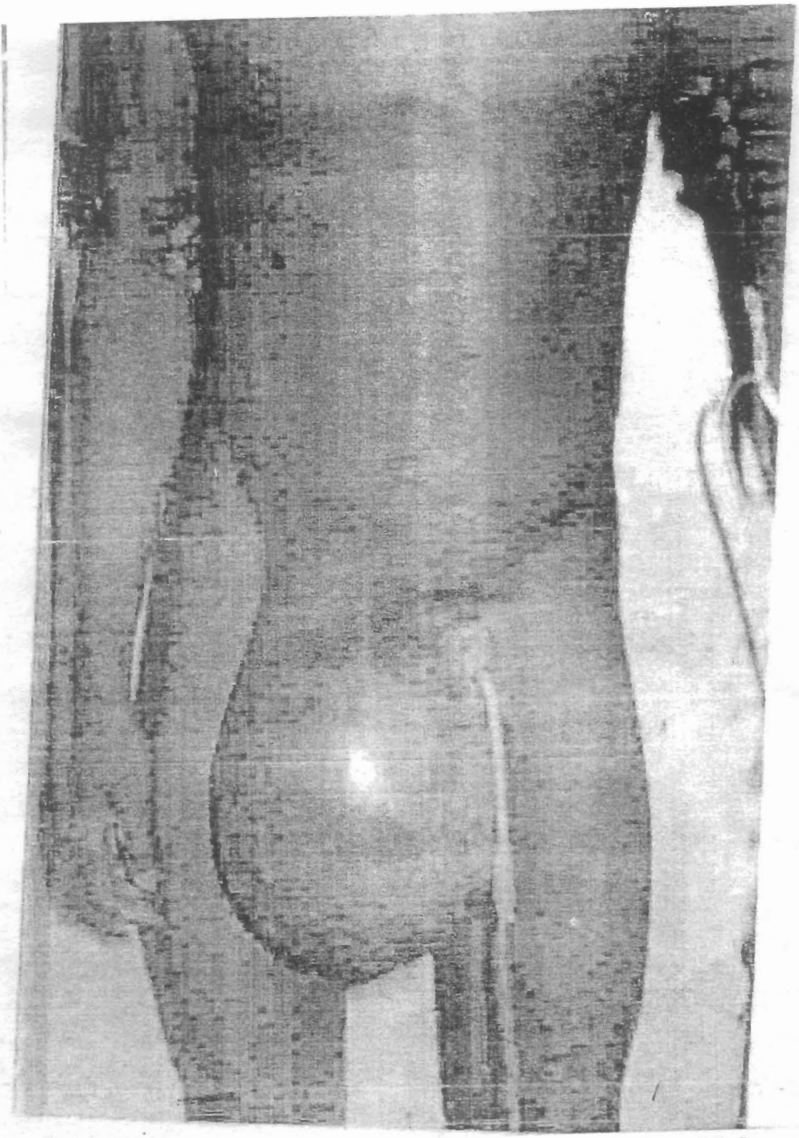

Figure xiii: Huge indirect right inguinoscrotal hernia with lower urinary obstruction.

Figure xiv: Content of inguinoscrotal hernia sac

INCISIONAL HERNIA.

Incisional hernia is the type of hernia seen after operation for intra-abdominal conditions; it is more common in women undergoing operations for pelvic organ conditions. The incidence was between 0.5-11% and this is influenced by pre, intra and post-operative factors such as age, being females, obesity, coexisting pathology, surgical techniques and postoperative complications among others; 72.5% of incisional hernia developed within a year of abdominal operations[77, 78]. It is common in Nigerian women; in order to determine the rate and factors influencing the incidence of incisional hernia in our environment, we studied a total of 701 women who had abdominal operations for child bearing. We found 3.1% of incisional hernia rate and it was significantly influenced by multiparity, symptoms and signs of sepsis before operation, longititudinal abdominal incision, emergency operations, presence of additional pathology and the need for additional operative procedure; others were postoperative abdominal distension, abdominal abscess, fever, wound infection and wound dehiscence[79].

Table 13: Factors independently predicting incisional hernia aetiological factors

Factors	Partial F-test	P-value
Pre-operative factors		
Parity	9.3804	<0.0005
Abdominal skin incision	5.0020	<0.0005
Emergency operation	3. 0875	0.01
Sepsis	14.2460	<0.0005
Operative factors		
Added pathology at operation	4.8582	<0.0005
Additional procedure	7.9541	<0.0005

Post-operative factors		
Abdominal distension	5.000	<0.0005
abdominal abscess	11.1217	<0.0005
Postoperative fever	2.8383	0.025
Postoperative cough	0.8654	0.5
Wound infection	5.6303	<0.0005
Wound dehiscence	94.0390	<0.0005
Other complication	10.2844	<0.0005

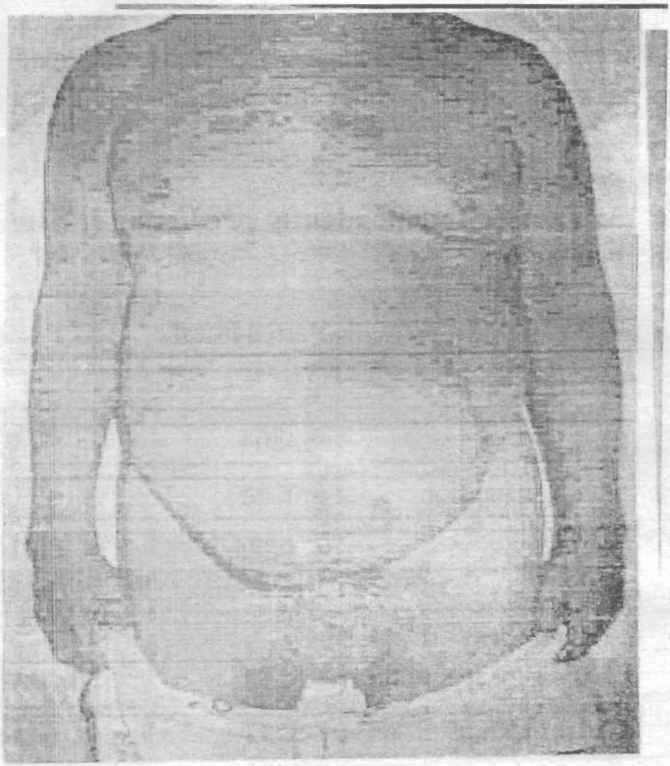

Figure xv: A case of incisional hernia in a man

Figure xvi: Incisional hernia in a 65 year old woman

CANCERS IN DEVELOPING COUNTRIES: nemesis of late presentation.

The hospital incidences of various cancers are increasing in Nigeria, many present very late with associated management difficulties. Most common of these cancers of the breast, stomach, colorectal, pancreas and others which are managed by General Surgeons. The trial and travail with managing these conditions are illustrated with breast and gastric cancer

Fig. xvii: Advance right parotid tumour in 57 year old man.

BREAST CARCINOMA.

Over eighty percent of breast lumps are benign, majority of them are fibrocystic disease and fibroadenoma[80]; while attention is rightly focused on breast cancer as the most important disease. Cancer of the breast is assuming an epidemic proportion; it has overtaken cervical cancer and now is the leading cause of cancer mortality in women all over the world[81] . The incidence is higher in developed than developing countries, and it also, varies with urbanization, being three times common in urban centres than rural areas. In Nigeria and other developing countries, there was no conclusive evidence that the incidence of breast cancer is higher among urban women. However, the poor health facilities in the rural areas, lack of accessibility to big hospitals and the high rural-urban migration are pointing to the fact that breast cancer may be, apparently, higher in urban centres. The incidence is increasing in Nigeria, from 15.3 in the 80s to 116 per 100,000 in 2001 in Ibadan[81,82]; in one of our studies, it accounted for 5.4 in1000 of hospital admissions[83]. While the breast cancer mortality is declining in developed countries it is increasing in Nigeria[80,81] and other developing countries[84]. Advocacy for breast cancer awareness is massive in developed countries, easy access to screening programs for early detection and prompt treatment is enhanced. Significant progress has been made in basic research and clinical trials in breast cancer, unfortunately, this is not so in developing countries. The impact of breast cancer as the leading cause of death in young women spared by maternal mortality is yet to be recognized. The disease remained a deadly one in Nigeria because of our poor health facilities and failure to address the health conditions of our teaming population.

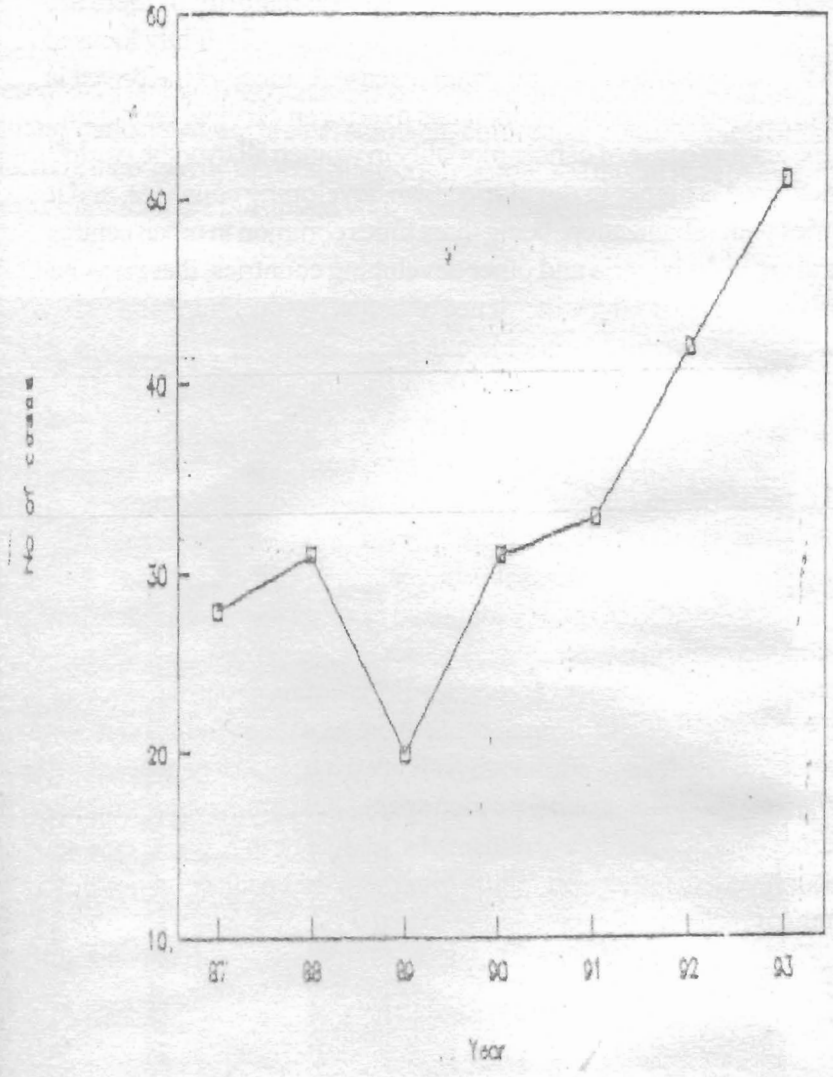

Fig. xviii: Incidence of breast cancer on yearly basis from 1987 – 1993.

In one of our studies, 67% of the patients were pre-menopausal women, whereas this accounted for only one-third patients in developed countries[85]. Only 0.5% was below 30 years of age in developed countries, this was between 2.6% in our patients and 12% in Eastern Nigeria[123]. The peak age was 40-49 years in this environment[83,86], similar to findings in other developing countries[82,85,87] but a decade earlier than in developed countries. Some factors thought to be protective were less so in our patients. The mean age of menarche was not early (15.6 years) and mean age of menopause was not late (49.3 years); 79.7% were either multi or grand-multiparous, the age of first pregnancy was early (mean of 23.4 years) and nearly all the patients practiced prolong breast feeding (mean=1.67 years). Also, there was low level of family history of breast cancer and irregular hormonal usage for a short period time. The role played by mutation of BRCA1, BRCA 2, TP53, over expression of HER-2–neu and other genetic factors in the aetiopathogenesis of breast cancer is still being studied in Nigerian patients.

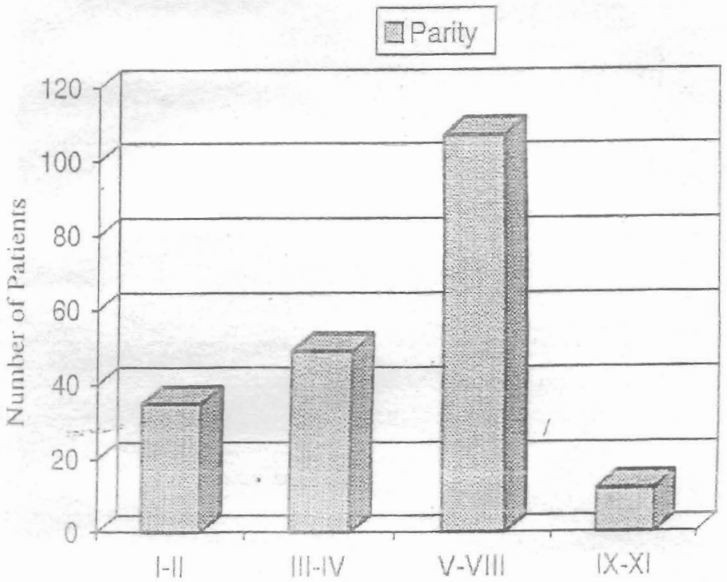

Fig. xix: Distribution of patients with breast cancer into number of pregnancy they have carried.

Late presentation of breast cancer is common in Nigeria[81,82,,87], other developing countries[84] and among indigent patients in United State of America[88]. About 22.7% of our patients presented after a year of the onset of symptoms, 70-80% presented with stage 3 or 4 tumour compared with 3% or less in developed countries[89]. There was no single case of carcinoma-in-situ diagnosed among our patients, which accounted for more than 10% of cases in the developed countries due to the frequent use of mammography. In Nigeria, breast cancer presents with massive tumour, extensive skin pathology, wide spread loco-regional and systemic metastasis, which is attributable to the delayed presentation on one hand and aggressive tumour biology of breast cancer seen in Nigerian and African-Americans in United States America[90,91] on the other hand.

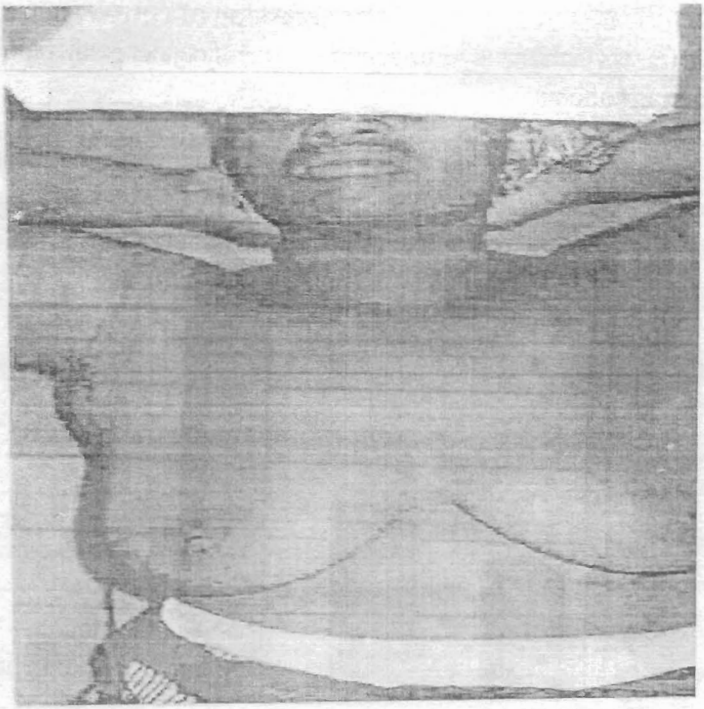

Figure xxi: Showing early right breast cancer in 46 year old woman

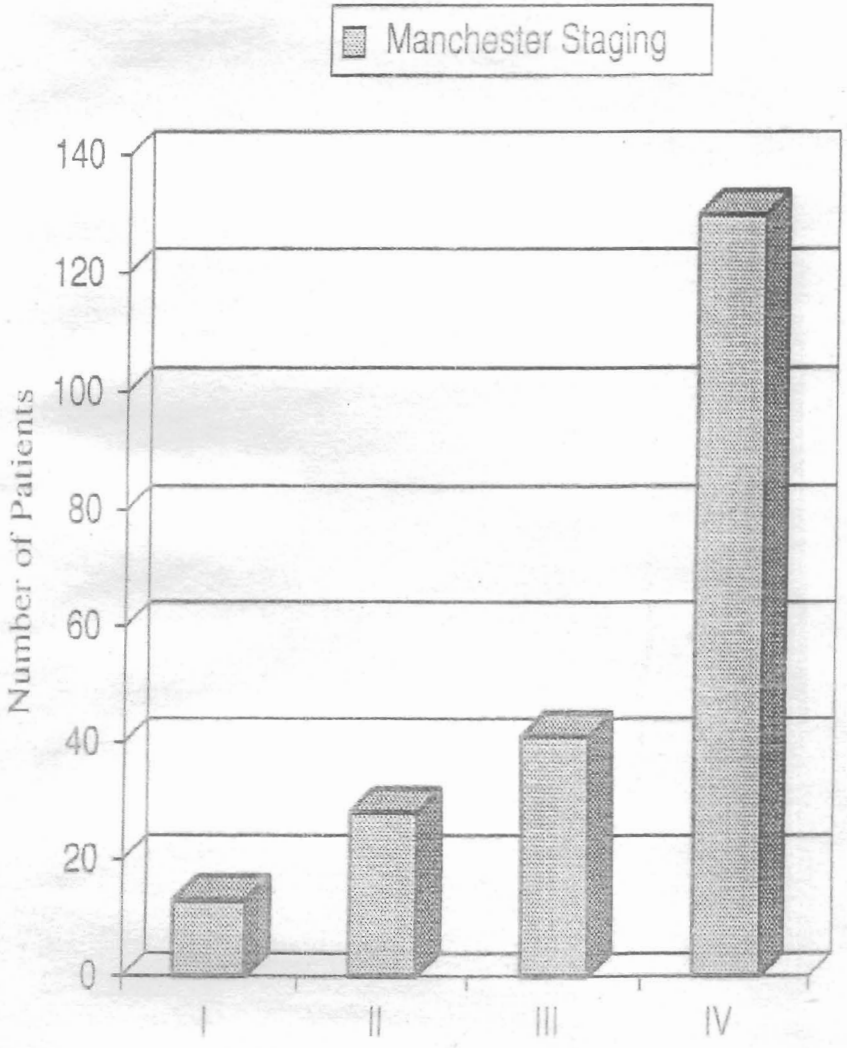

Figure xxii: Frequency of Stages at presentation

Figure xxiii: Showing a 36 year old woman with chest wall riddled advance breast cancer with extensive loco-regional metastasis.

Fig. xxiv: Showing advance right breast cancer in 26year old student with malignant pleural effusion on chest tube drainage.

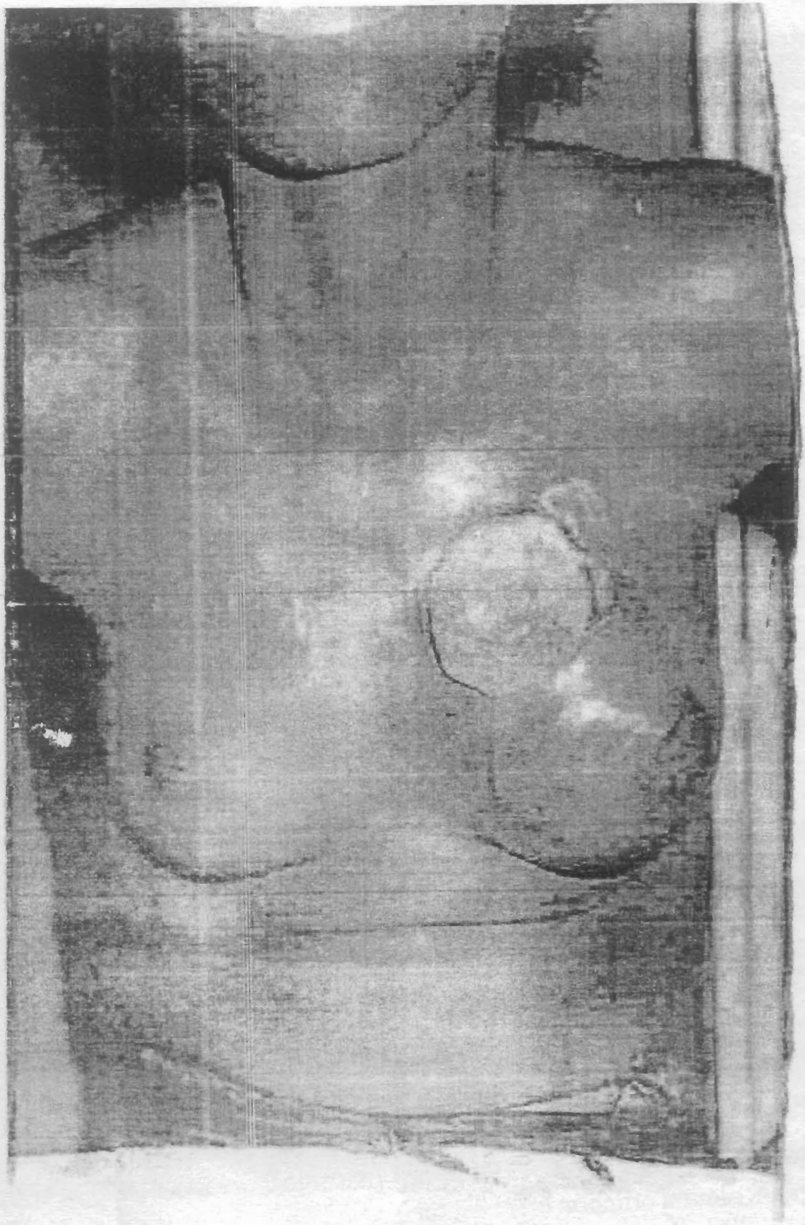

Figure Advance breast cancer in 25 year old lady.

Fig xxv: Picture showing massive breast cancer in 34 year old patient

Diagnosis of breast cancer is calamitous for the individual woman and her family, accurate diagnosis is necessary for adequate management, reduced treatment delay and clarifies the prognostic factors of breast cancer. In majority of cases FNA Cytology is diagnostic, when there is doubt; tissue sample must be obtained for histological analysis. FNAC is faster, with sensitivity of between 70 - 79.2%, specificity was 88.2%, false positive and negative were 1.8 and 14.9% respectively in our environment[92]. Determination of hormonal status is necessary for its prognostic value, most especially, oestrogen receptor status; this facility is not routinely available in many hospitals in Nigeria. About 25-30% of the breast cancer in this environment is oestrogen receptor positive similar to findings in other part of this country.

Extensive investigations for detection of metastatic disease in early or advanced breast cancer are, often, not useful and contribute little to change the line of management and the outcome of the disease. Mammography is useful in detecting early breast cancer and ruling out multi-centricity of the tumours but has little or no value in majority of our patients.

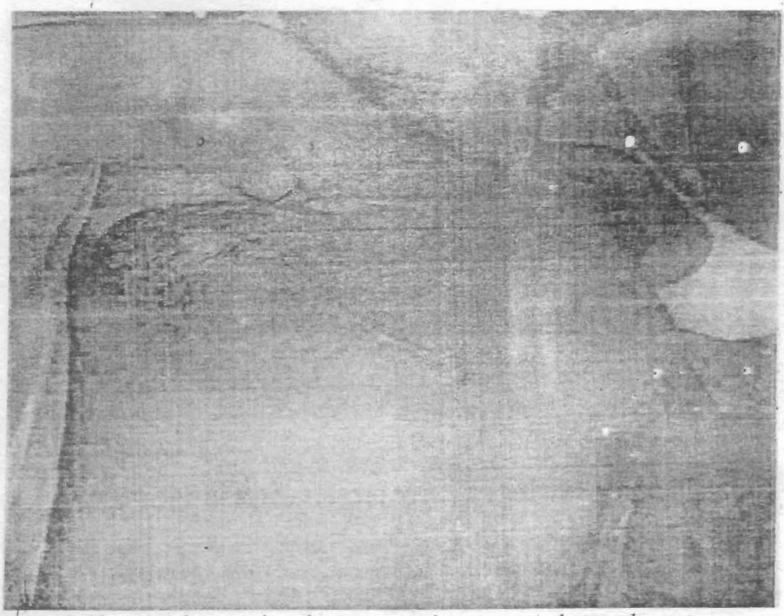

Figure xxvi: Showing locoregional recurrence in woman advance breast cancer after surgery.

Table 13: Distribution of loco-regional and systemic metastasis.

REGION	NUMBER OF PTS	PERCENTAGE
LOCO-REGIONAL		
Ipsi-lateral lymph node	177	83.5
Ulcers over the breat	87	41
Peau d'orange & skin changes	85	40.6
Nipple retraction & deformity	85	40
Contralateral lymph nodes	42	19.8
Skin satellite nodules	39	18.4
Supra-clacuvilar lymph node	38	18
SYSTEMIC		
Chest	43	20.3
Pleural effusion	28	
Consolidation	13	
Cannon balls	2	
Abdomen	40	19
Liver	28	
Ascites	12	
Bones	24	11.3
Spine	9	
Limb bones	8	
Skull	4	
Others	5	
Central Nervous System	4	2
Loco-regional recurrence	32	15
Second breast cancer	10	4.7
Others	17	8

Approach to the treatment is multi-dimensional and multi-disciplinary. Breast-conserving surgery complemented with irradiation therapy and antioestrogen have been found to be adequate in early breast cancer[93-95].Our patients could have benefited from breast-conserving surgery in

steady of much-feared mutilating mastectomy if only they presented early. Tamoxifen is the antioestrogen available and affordable in reducing tumour load in our environment; the newer antioestrogens - aromase inhibitors or inactivators such as letrozole, anastrozole and exemestane with better efficacy are neither available nor affordable to patients in our society. The use of cyclical combined chemotherapy of 5-fluorouracil, methotrexate, cyclophosphomide and prednizolone remained popular since the discovery of its efficacy by workers in Milan, Italy[81,87,93-95]. As first-line drugs, they have been extensively used in developed and developing countries; when there is resistance by the tumour, the use of anthracycline-based drugs such as doxorubicin and the newer agents of Taxanes represented by docetaxel and paclitaxel have been found beneficial to the patients in developed countries but too expensive for majority for our patients. Further benefits were said to be derived from dose-dense regimen of chemotherapy, especially, docetaxel and therapeutic prevention of haematological complications[96]. Poor compliance is a major problem in this society due to the cost of the drugs.

Advanced breast cancer poses enormous management difficulties and often unrewarding because of extensive lesions, difficult operation, postoperative flap necrosis, wound infection and early locoregional recurrence. Only palliative treatment could be offered to all of them as survival rate is 10-15% in 5 years in developed countries. The data for survival rate is poor in the developing countries as many of these patients were lost to follow-up; but is likely going to be poorer bearing in mind the difference in tumour biology and extreme stages at presentation of our patients.

To make any difference in the prognosis of breast cancer in Nigeria, culturally acceptable and appropriately targeted education about breast cancer should be instituted. There must be facilities for screening women, so that breast cancer can be picked early, possibly before the tumour is palpable. The cancer in the breast can be palpable when it has multiplied about 200 times or minimum size of 1 cm, this depends on the size of the breast or whether the woman is pre-menopausal or not. The pre-requisites for this is to support women to ensure access to appropriate and affordable

screening and diagnostic tests such as mammography, breast scanning with CT, MRI and high resolution ultrasound and prompt treatment. Despite the increasing incidence of breast cancer, mammography machine is not available in Ile-Ife and many centres in the country, not to talk of CT Scan or MRI. Breast self and clinical examinations, although have their own limitations, are useful for enhancing early diagnosis and providing the possibility of breast-conserving surgery. However, mammography[97] and MRI[98] breast examinations are the only methods known to have reduced mortality in breast cancer; unfortunately, these are neither accessible nor affordable to most the patients in many developing countries, including Nigeria.

STOMACH CANCER.

There is worldwide variation in the prevalence of stomach cancer; it is very common in China, South America, Eastern Europe, Japan and Korea, where it is the leading cause of death or cancer related mortality[99,100]. The prevalence is comparatively low in Africa, and it varies from country to country[100]; Nigeria, South Africa and Congo Kinshasa have been noted to have the highest incidence as compared to Francophone countries in West Africa, Egypt and Kenya[101]. There are regional variations within these countries, in Nigeria, the incidence is 4.1% is South Western part which doubled that of Northern part of the country[102]. Although, yet to be demonstrated, the importance of dietary, genetic factors and variation in the infectivity rate of Helicobacter pylori may be responsible for this variation. In Ile-Ife and environs[103]; it accounted for 5.3% of all malignancies similar findings were reported in other parts of Nigeria[102]. We found more males were affected in ratio 3:2 and peak age was in the 5th decade of life, again, a decade earlier than developed countries. The aetiopathogenesis is multifactorial and is associated with complex interactions between genetic, pre-malignant lesions and diets. The role of Helicobacter pylori which was found in 40% of the patients this environment is not yet clearly defined; in view of the comparatively low incidence of gastric cancer in Nigeria.

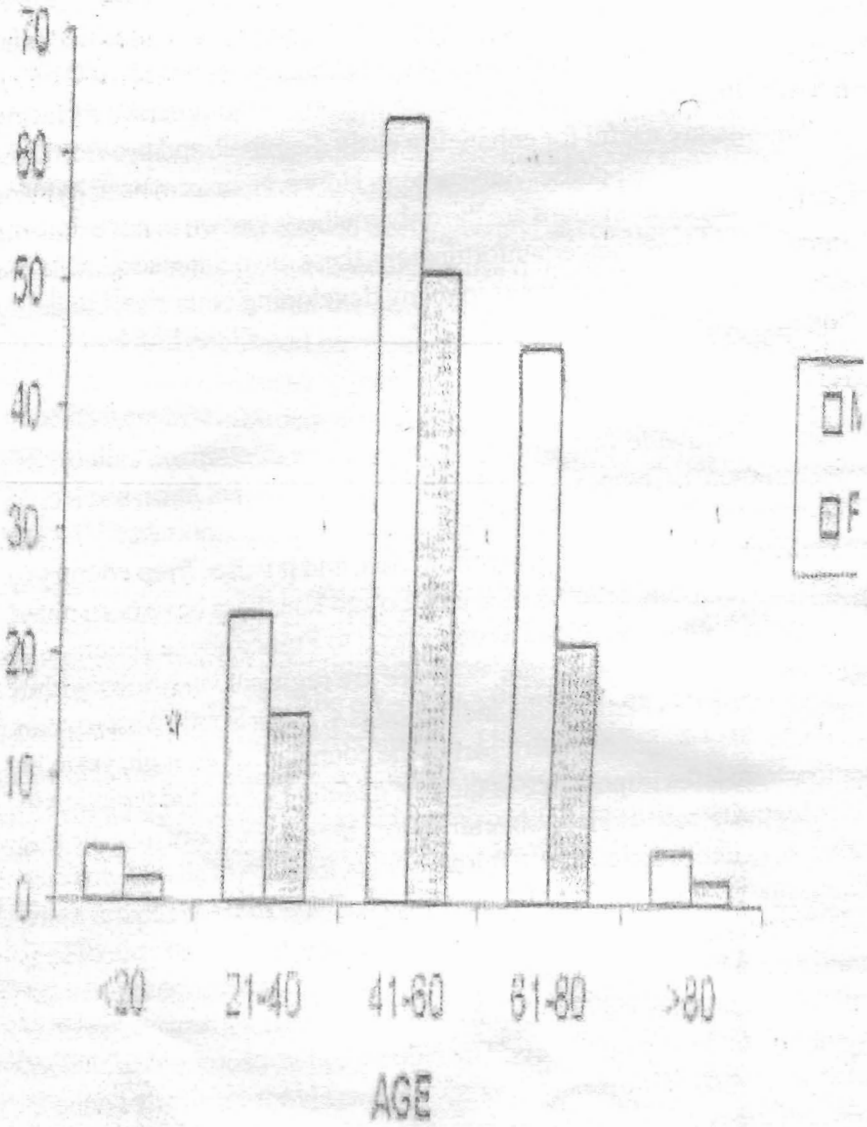

Fig xxviii : Showing histiogram of agegroup with sex ratio of patients with gastric cancer.

Table 35: The risk factors identified in patients with gastric cancer.

Risk factors	Number of pts	Percentage	Relative Risk
Alcohol intake	107	66.9	2.02
Cigarette smoking	94	58.8	1.42
Helicobacter pylori	58	36.3	0.57
Blood group A	32	20	0.25
Smoked fish	21	13.1	0.15
Herbal concussion	13	8.1	0.09
Chronic use of NSAID	9	5.6	0.06
Family History	3	1.9	0.02

The diagnosis is clinical with florid symptoms and signs because of late presentation in Nigeria, but upper gastrointestinal endoscopy and double contrast radiological study with barium are very valuable in making diagnosis of early cases and confirm clinical diagnosis of advanced lesions. The prognosis of advanced gastric cancer is poor; patients can only be offered palliative treatment; this can only be improved when the diagnosis is early with upper GI endoscopy. However, this is neither widely available nor accessible to most of our poverty ridden patients. Early gastric cancer present with protean symptoms such as vague abdominal pain and nausea with little or no sign. Detection is only possible when all dyspeptic patients are screened with upper GI endoscopy as it obtained in developed countries. We found that the proportion of early gastric cancer to be 2.6% in our study, not because of lack of presentation but because our ability to screen all dyspeptic patients with endoscopy is limited.

The macroscopic and microscopic appearance was not different from the findings all over the world. The tumour was located in the gastric antrum, it may extend to the body because of advancements, and cauliflower in macroscopic appearance, adenocarcinoma 93%, mucinous tubular or papillary in 93% in our study. There were few cases of gastric lymphoma and gastrointestinal stromal tumour (GIST) similar to worldwide experience.

Surgical resection is only curative for early gastric cancer but only palliative to advanced cases[104]. The resection was only possible in 23.8% of our cases, similar to findings in many centres all over the country, other developing countries and Eastern Europe. Majority of the patients were dead within a year of diagnosis; only 14% were alive in 5 years, which was an improvement over previous findings of 3% survival rate in this environment[105]; similar dismal outlook had been constant findings of many authors in Nigeria.

Preventive strategies directed at eradicating of known aetiological factors in gastric cancer and control measures instituted to make early diagnosis possible. There is a need to encourage hygienic environment, appropriate dietary pattern and healthy living that would minimize transmission of Helicobacter pylori among others. In addition, there is a need to promote health education for the general populace to seek medical attention early and health facilities should make upper GI endoscopy widely available, accessible and affordable, so that any gastric symptoms can be properly assessed without delay.

CONCLUSION.

Looking back, it may be impossible to predict what will happen soon to surgical practice in developing countries in term of advancement. Surgery tried to resolve problems that depend on the body (our genes and life style) or surroundings (what weaken, infect and injure us). Today, we face a potential or certainly increase in many such problems, and surgery must develop in order to catch up or keep up with them. The problem posed by cancers, cardiovascular diseases, chronic renal failure, HIV/AIDS and other non-communicable diseases in addition to the burden of communicable diseases in our environment is herculean and real.

The problems of shortage of medical care is real in the tropics, hardly can our resources provide medical care for day to day needs, not to talk of routine emergency care and emergency for mass disaster, which is non avoidable in the society we live and for epidemics such as AIDS. The recent earth quakes in Myanmar and China were instructive for limited income countries like ours. Medical care as a whole is bad or declining in

income countries like ours. Medical care as a whole is bad or declining in many places in the developing countries including Nigeria. In Nigeria, health care providers are in short supply; the ratio of medical doctors to populace is very wide, about 1: 20,000 and specialist is about 1: 160,000. Advanced surgery with recent innovations such as minimal assess surgery, LASER and computer assisted surgery etc in many surgical conditions are done routinely in developed countries but still remain a mirage in Nigeria. When compared with surgeons in Europe and North America, the modest achievement of Nigerian surgeons is barely scratching the surface of the problem. Our expertise is grossly under-priced and under- utilized due to poor health funding and inadequate infrastructures in most public hospitals, poverty, attitude and belief of our people.

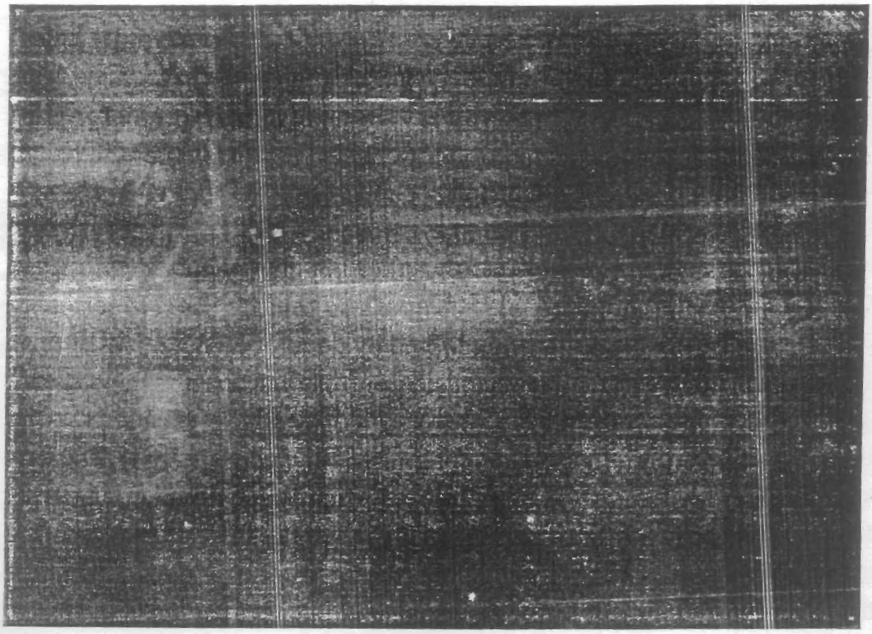

Figure xxix: Surgeons operating in darkness due to PHCN power outage – frequent occurrence in surgical practice in Nigeria.

General surgery and indeed all areas of surgery have expanded greatly with various specializations and super-specializations in developed

countries; this is limited in Nigeria. For example, it has taken about 20 years to develop renal transplantation program in our hospital and we are not there yet. Among the specialties that will go on expanding are oncology, transplantation surgery, trauma, and reconstructive surgeries. The reason is the growing proportion of people who need new body parts. Implants and prostheses are increasingly made of friendly material, metal alloys and other materials, due to advancement in knowledge of surface chemistry and tissue reactions. But where is Nigeria in the scheme of these things? The attitude of our leaders is not helping the matter; who at the slightest opportunity run abroad in search of salvation from their ailments, instead of improving health care system at home. The medical experts like experts in all aspects of national life in Nigeria are frustrated due to dilapidated infrastructures.

In Nigeria, only a fraction of people who needed surgery actually have access to hospitals or surgeons due to economic reasons and others waited until their conditions become critical. They presented as emergency condition only to die in Accident and Emergeny Unit[106]. Those who have access paid through their nose; hospital care is not cheap anywhere in the world, therefore, we have to find alternative means of funding of health care system other than government subvention which is grossly inadequate. The idea for paying for health needs before you need health care services is very sound. This is the system adopted by developed countries and is working well for them with appropriate progress being made in medical practice and research. One, therefore, wonders the problem with implementation of NHIS (National Health Insurance Scheme). For the past 40 years we have been battling with the establishment of health insurance scheme that would have galvanized the health of Nigerians for the better and encourage research in health sector, but, it was moribund until recently. The earlier we implement comprehensive and well managed NHIS the better for all of us, because it is very difficult for an individual to pay for health care services when he or she needs it. NHIS will ensure adequate fund is available for health care delivery system at all time.

RECOMMENDATION.

- There is urgent need to increase funding of health delivery system through public and private participation approach.
- Government should evolve sound and well implemented health policy or policies.
- Implementation of compulsory National Health Insurance Scheme for every individual living in Nigeria.
- Colleges of Medicine or Health Sciences, Teaching and Specialist Hospitals should be expanded and well equipped to broaden their capacity for training more doctors, specialists and super-specialists, so that existing ratios be narrowed.
- There is a need to train more other health care providers and provide in-service training for those already in the system; institutional base need to this should be expanded and adequately equipped.
- There is urgent need for capacity building for all the existing health care delivery units and erect new ones in all nooks and crannies of this country.

Mr Vice-Chancellor Sir, ladies and gentlemen; the revelations and inventions of those who seek and apply the truth about nature may have many purposes, ranging from earthbound laboratories to outer space. But, they will always affect the ability of the SURGEON to use the "KNIFE", and indeed all the physicians, to maintain and improve the life of HUMANkind, we must not be left behind.

Thank you for your attention and patience.

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