

OBAFEMI AWOLOWO UNIVERSITY, ILE-IFE, NIGERIA.

Inaugural Lecture series 245.

“CAN THESE BONES LIVE?”
A journey into the Anatomy of disease”.

By

Babatunde J. Olasode
Professor of Morbid Anatomy



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**“CAN THESE BONES LIVE?
A journey into the Anatomy of disease”.**

**An Inaugural Lecture Delivered at Oduduwa Hall,
Obafemi Awolowo University, Ile-Ife, Nigeria
On Tuesday 24th, April, 2012**

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“CAN THESE BONES LIVE? A journey into the Anatomy of disease”.

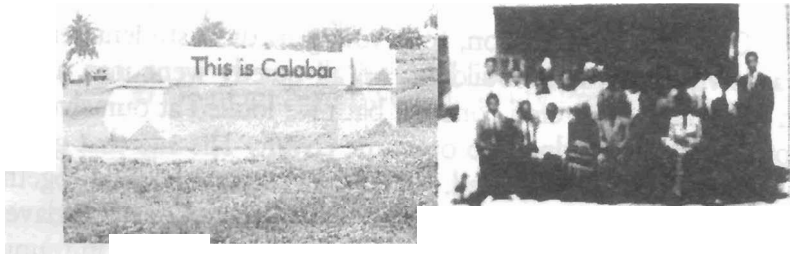
The beginnings

On a bright afternoon, four young medical students entered into a newly constructed building, we all quietly went into a small room and found a covered concrete bath we looked at ourselves and one of us had the boldness to open the cover. The site that greeted us is not for the faint hearted. We found, neatly packed together about six to eight lifeless bodies of both male and female cadavers. The cadavers are the basic instrument of work for doctors in training to master the subject of anatomy. I was one of the four students and this began the first step into the wilderness of morbid anatomy.

Mr. Vice Chancellor, distinguished ladies and gentlemen, I welcome you to the 245th inaugural lecture series to be delivered by myself on behalf of the morbid anatomy department. This is the third lecture from the department of morbid anatomy after Prof W O Odesanmi and Prof O S Ojo. I have titled the treatise **“CAN THESE BONES LIVE? A journey into the anatomy of disease”**.

The journey of a thousand miles begins with the first step. I had wanted to read Engineering. Indeed I will have been building bridges and planes rather than putting together broken bodies and flesh to make a sense of what is happening in the human body. However I was persuaded to read medicine when I was challenged that I was running away from what people thought was a difficult course. I felt the bandwagon effect of everyone wanting to be a doctor was creating an unnecessary bias of highly intelligent scholars into a field that was characterized by very long hours of work and inappropriate remuneration and hazardous lifestyle with a short life expectancy

I was admitted to read medicine with about 39 other students and we together formed the first set of medical students at the University of Calabar Medical School on October 23, 1978.




We arrived Calabar with a return ticket to Lagos as we were not sure whether a Medical School existed in Calabar. We had applied with so many others to University of Ibadan for direct entry in the 1977/78 Jamb and Calabar was not listed among the medical schools. However, the medical school was just starting and since Ibadan had excess student applications, the foundation Provost of the College of Medical Sciences Prof Olufemi Williams went to the jamb office and requested for the excess students that could not be accommodated in Ibadan to start the new medical school.

The Vice Chancellor at the time was Prof Ayandele, the man that coined the phrase that Calabar "is an anatomistic society perpetually at war against itself". That phrase can be applied loosely now to the whole University system and this has led to a decline in the quality of education at all levels. However we are not short of quantity. On arrival, we were all told that the pre-clinical course was going to take place in Malabo. The new building has just been constructed and the department of Anatomy was within the complex. We were informed as part of our practical that we are going to dissect human bodies to learn firsthand all the structures comprising the human body. We were informed we are to use cadavers which are corpses preserved for anatomic dissection.



The curiosity to see how cadavers looked like prompted us to do exploration in the Anatomy practical laboratory until we stumbled on the room containing the bodies. The next day we were distributed to the bodies and thus the dissection started. I soon found that I was the prosector for my group as I enjoyed tracing every nerve, muscle, vein, and bones. The love with anatomy early in my career led to a deeper understanding of pathology and a liking for Morbid Anatomy and Histopathology developed. The first 3 provosts of the University of Calabar medical school were all morbid anatomists who made lasting impression in starting up my career. Prof Olufemi Williams, Late Prof Irwin Samuel and Prof Ed-B Atta were all histopathologists who laid the first foundation.



Prof Olufemi Williams with B J Olasode 1979

STRONG MEAT

After some time spent in the study of human anatomy, it became apparent that medicine is not for the faint hearted, we had to discover by dissection that body parts of an adult human being is not much different from that of a cow or a goat. The day we dissected the liver of an adult cadaver, many of us seeing the human liver for the first time were amazed to discover that it looked very much like the liver of a cow. The next day at the cafeteria, we were served a meal of bread and liver stew for breakfast. I soon discovered that my classmates had lost appetite for the liver. For those that could eat strong meat there was free breakfast with lots of extra liver to spare and at the next dissection it was business as usual. Many more students were to drop on the way for other various reasons than liver dissection. Out of the 42 students that matriculated only 34 students graduated.

As a student, I had a voracious appetite to want information about almost everything. Of all the fields of medicine, pathology is the most diverse and a foundation without pathology in medicine will be shaky. It is said that the pathologist knows everything but it is too late. I want to say the pathologist is not God and so cannot claim to be all knowing and to say that the pathologist may perform secular miracles of detecting missed diagnosis hidden from human eyes and save lives. Most diagnosis that have been dormant for years have been discovered by pathologist and this has helped to save lives and some of the lives saved are still healthy and moving around today.

The phrase can then be modified to say that “the pathologist knows a lot, but it is never too late if diagnosis is made early”. Much secular work on the radio and TV and the other media such as the final diagnosis, CSI or crime scene investigation series and forensic investigation has glamorized pathology, but I must say there is a gap between facts and fiction. We should remember that diseases do not read books or watch televisions so a good pathologist must be on guard and cannot afford not to be on top of his game.

DIVISIONS IN ANATOMIC PATHOLOGY.

Pathology is divided into Morbid Anatomy, the aspect that deals with post mortem examinations which is very familiar to the general public. Many believe that is all about pathology. However there are other parts of pathology such as histopathology. This examines all the tissue taken out of the human body for diseases and gives accurate diagnosis to the clinician. We also have a branch of pathology devoted to examination of cells and body fluids that is cytopathology. A resident must train in these pillars of pathology to be certified. Following basic training, residents proceed to other special areas in pathology including Forensic Pathology, Neuropathology and the different organ specific pathology such as Gastrointestinal pathology, Hematopathology, Gynecological pathology and pulmonary pathology to mention a few.

Autopsy Pathology is as old as the pioneers of Pathology itself it was first coined out in Alexandria 300BC, 500 years later Galen compared different ante mortem findings to post mortem. Autopsy itself as an investigative tool was ordered in 1302 AD by a magistrate in Bologna, Italy. Leonardo da Vinci and Michelangelo did autopsy to improve skills in accurately representing the human anatomy.

Autopsy literally means to cut and see for oneself after which you sow back and reconstruct. In 1761 Giovanni Morgani published the first compendium on diseases. He is one of the pioneers of autopsy pathology.

There are various methods of the Autopsy.

The Method of Morgani. 1682-1771

He is the father of modern autopsy practice. He personally carried out 700 autopsies, the most famous of his findings was the effect of decompression illness causing cerebral embolism. This happens in deep sea divers who resurface rapidly. Morgani was a student of Antonio Valsalva (1666 - 1723) who in turned learned from Malpighi of Borelli.

The Method of Rokintansky 1842

In 1842, Rokitansky developed a systematic method of the autopsy. He earned a doctorate in medicine on 6th of March 1828 at the University of Vienna. He recognized the importance of anatomic pathology to hospital practice. He supervised 70,000 autopsies and personally performed 30,000 an average of two a day, seven days a week for 45 years. His name is associated with many syndromes in medicine including, Rokitansky diverticulum, Rokitansky- Aschoff sinus and Von-Rokitansky syndrome to mention a few. He subsequently published a handbook in 1842.

The Method of Gohn 1890

In 1890, Gohn described a modification of Rokitansky method and developed the block dissection we commonly use in anatomic dissection till today. The previous dissection was mostly done in situ but Letulle in 1900 pioneered organ dissection outside the corpse. This can lead to a faster release of the corpse to relations to avoid long delays experienced after post mortem examinations

The Method of Virchow 1893

In 1893 Rudolf Virchow established a standardized method of autopsy. He advocated single organ dissection and described in detail the method of study for each organ. Today many pathologists will elect to do any or a combination of the methods available to determine the pathology of disease in the corpse. Virchow is one of the great pioneers of medicine and had many awards to his name.

The Pioneers of Morbid Anatomy

Giovanni Battista Morgagni

February 25, 1682-December 06 1771



Giovanni Battista Morgagni
The Anatomy of Man

Baron Carl von Rokitansky

19 February 1804-23 July 1873



Carl von Rokitansky
The Anatomy of Man

Rudolph Ludwig Karl Virchow

13 October 1821- 5 September 1902



Can these bones live? A journey into
the Anatomy of Disease

MAJOR TYPES OF THE AUTOPSY

The three major types of autopsy performed in pathology are

1. Medico legal autopsy – performed in all manner of sudden unexpected deaths
2. Clinical Autopsy – performed to diagnose a disease or for research
3. Academic Autopsy – performed by students of anatomy for personal study

The medico legal autopsy requires the report to a coroner, and includes all autopsies done for sudden deaths, violent deaths, suicide and in poisoning and every death within 24 hours of arrival at the hospital

The clinical autopsy is done on request by a physician. Consent must be obtained and the findings discussed with patients. There are many texts on autopsy and some texts are available in the British library or other ancient archives.

One of the problems encountered is that most requests for autopsy are not routed correctly because of ignorance and misconceptions at various levels. The criteria for requesting autopsies are as follows:

1. Deaths in which autopsy will help to explain unknown medical conditions
2. All deaths in which the cause of death is unknown
3. Cases in which autopsy may help to allay concerns of the family
4. Unexplained deaths following diagnostic or therapeutic conditions
5. Deaths of patients who have participated in clinical trials
6. Deaths resulting from highly infectious and contagious disease
7. All obstetrics deaths
8. All neonatal and pediatric deaths
9. Deaths in which autopsy will shed more information on survivors or recipients of transplant organs
10. Deaths resulting from suspected commercial or occupational hazards

This would suggest that most deaths requires post mortem examination

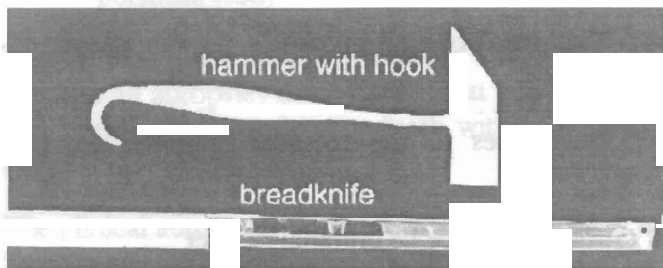
It should be known that medico legal autopsies require different kind of rules

The criteria for reporting cases to the medical examiner are as follows:

1. All forms of criminal violence or criminal neglect
2. All accidents or intentional injuries regardless of how long before death the accident occurred
3. All suicides
4. All deaths that are caused by or contributed by drug overdose or poisoning

5. All employment related deaths
6. Death of persons in legal detention
7. Deaths that occur during diagnostic surgical or therapeutic procedures
8. Deaths that occur unattended by a physician
9. Sudden deaths in persons in apparent good health
10. Deaths that occur in any suspicious or unusual manner
11. Fetal deaths in the absence of a physician or midwife
12. Neonatal deaths resulting from maternal trauma or drug abuse

THE AUTOPSY ENVIRONMENT



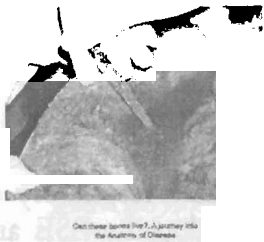
The tools of the autopsy are very similar to the tools of the surgeon. Similar tools can be found in the handyman store. However the autopsy environment has changed in the last few years. There are some limitations but some modern autopsy suites will be

the envy of most modern theatre suits in Nigeria in terms of sophistication and availability of modern accessory instruments to help arrive at accurate post mortem diagnosis.



The simple autopsy approach is to cut and see and to perform a simple check for air in the lungs

Test for pneumothorax



Clashmore James (1967) A journey into the Anatomy of Disease

Pericardial Fluid



Clashmore James (1967) A journey into the Anatomy of Disease

And to look for fluid in the different organ cavities which are the abdominal cavity, the lung cavity and the heart cavity. We then remove all the organs of the body routinely and do a detail

examination of each organ anatomically using various methods of dissection.

The findings of the autopsy will then be discussed with the relatives and answers are given to any issue raised for them to have a closure. This helps in total healing and recovery for relatives.

The Autopsy Conference



CAN ANY GOOD COME OUT OF THE AUTOPSY?

We do know that the autopsy remains a valuable tool in the medical education and all medical students are required to assist at autopsy which is very much part of the postgraduate curriculum

It was the autopsy that first identified potential deadly diseases such as Lassa fever, Legionella disease, severe acute respiratory distress syndrome SARS, bovine spongiform encephalopathy BSE and new variant Creutzfeldt Jacobs disease.

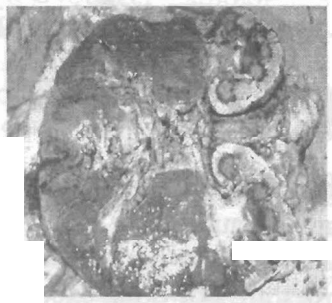
These were new and emerging clinical conditions unknown and not characterized at the time. Autopsy helped to define and improve the understanding of HIV and AIDS. The autopsy helps to explain the

extent of disease that is not apparent to the clinician. The autopsy helps to us to highlight unsuspected complications of management. It can help to determine the efficacy of drug therapy

We use it as a tool to monitor and audit the value of surgical techniques. It can be used to evaluate the performances of prosthetic devices and to monitor treatment regimes. It was through the autopsy that Adriamycin was established to be a cause of heart failure. One major value of autopsy is medical audit and that it reverses the common adage that the mistakes doctors make are buried for it is the autopsy that digs up the buried mistakes of medical professionals.

The autopsy helps to detect clinical errors in diagnosis and management, missed diagnosis are recognized even in the best of centers (personal data). Death certification are believed to be incorrect in 30% of cases and it is well recognized that the findings at autopsy will have improved survival in 10-15% of cases. The illustrated cases below were those of patients that died before clinical diagnosis could be made.

Missed Diagnosis - ATN



Can these bones live?, A journey into the Anatomy of Disease

Missed Diagnosis-Aortic Rupture



Can these bones live? A journey into
the Anatomy of Disease

It includes a sudden unexpected death in a university professor who was in apparent good health and died at work from aortic rupture found at autopsy table.

The autopsy can be also be used to audit new technologies. We do know that CT Scans, MRI and PET Scans are good non invasive technologies for seeing into the human body without opening, however trust me they are not as good as the God giving human eyes and anyway you need the human eyes for the final evaluation of the scans

THE BAD FACE OF AUTOPSY

It should be said that in spite of the good of the autopsy there has been a steady decline in the rate of autopsy. Most hospitals in Nigeria do not have facility or personnel to perform autopsies. In some parts of the country autopsies are not done except in medico

legal cases. This is a dangerous trend as doctors are being trained without recognizing the values of autopsy to medical practice.

We are also losing the most important and major distinguishing factor which cannot be contested or abused in any way or manner in the training of all health professionals. Only doctors can be trained in autopsy techniques and methods and can appear in a court of law to defend and collaborate the findings. This part of training is not available to other health professionals. I sincerely hope and pray that the day will not come in Nigeria when mortuary technicians will become so professionalized as to chase pathologists out of the Autopsy room. AMEN

There are many doctors who are specialist without a solid foundation in autopsy pathology. Such doctors will not understand the value of autopsy to medical audit. There will be few or no requests for autopsy by such doctors and they will have no motivation to attend autopsy rounds. The practice of such doctors will lack the most important tool in medicine, medical audit. We should be aware that such doctors have created circumstances in which when there is error in diagnosis and management such errors will go unrecognized and we need to prayerfully and actively reverse this trend. The mistakes of doctors are costly and are more costly if they go unrecognized to avoid recurrence. Over the years autopsy have become unattractive to clinicians and students. In my own constituency younger pathologists now prefer surgical pathology to autopsy pathology.

It is however a rewarding experience and more and more pathologists are going back to autopsy pathology.

THE UGLY SIDE OF THE AUTOPSY

Many pathologists have had reasons to be in dread of autopsy pathology especially when there are no proper standards and procedures in Nigeria. Many emergent diseases have taken a toll on

the earlier pathologists. When Lassa fever was first recognized the first few fatalities occurred in medical personnel that managed the patients including those that attended to the autopsy

Highly contagious and deadly diseases have been encountered at autopsy and no amount of remuneration can pay the potential risk the pathologist is exposed to at an autopsy. A golden rule that I and other pathologist follow is to remember that whatever is responsible for the death of a corpse is probably resident in the corpse and you should take adequate precautions to protect yourself so that you may not suffer the same fate. It is my belief that no category C autopsy should be done in Nigeria as I do not know any pathology autopsy room in Nigeria equipped to perform category C autopsy. Category C autopsies are those that involve highly contagious and deadly diseases that require special autopsy suites which are locked down and decontaminated after the procedure. This is to safeguard the lives of pathologists. I was privileged to perform category C autopsies while in UK in 1997. There was positive pressure ventilation and an extractor vent that made sure that airflow was mono directional. We had different entry and exit into the autopsy room and all our autopsy wear were incinerated. Clinicians will understand the reluctance to perform autopsy on a case suspected of having HIV, HBV or BSE which are all category C autopsy cases in Nigeria.

The Nigeria factor has also necessitated that potential political autopsies or sensitive autopsies with security implications have to be done with wisdom. You may require a bullet proof lifestyle and military escort or even receive assassinations threats following such adventure.

The Ife famous five that was done by Odesanmi and the mobitel issue in Lagos are recent events that bear testimony to the ugly side of the autopsy. The MKO Abiola and Sanni Abacha issues are still buried in secrecy although we know what killed Ronald Regan and the autopsy findings of both Michael Jackson and Elvis Presley are

debated publicly. Of recent after the death of Whitney Houston (February 2012) an autopsy was done with toxicology results. The pathologists in Nigeria will still have to think about the practice and survival of autopsy pathology in spite of these challenges. If we are to ask can any good come out of the high profile autopsy cases in Nigeria?. The answer will be of course yes because it is mandatory that a doctor performs such an autopsy and he or she will be privy to the truth regardless of the media hype. The truth is the truth and one day the truth shall be revealed and we shall be free of circulating ignorance.

Nigerian Factor



Call these names (in?) A journey into
the Academy of Osun

Nigerian Factor



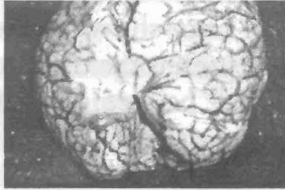
Call these names (in?) A journey into
the Academy of Osun

I have found from repeated autopsies done on patients diagnosed with cerebral malaria that in most cases the diagnosis is in fact meningitis and not cerebral malaria. This is a common error in clinical diagnosis in our environment in which clinical autopsy can help to clarify especially in children.

The ugly side of diagnosis at autopsy is that meningitis if discovered early is potentially treatable whereas in the best of centers cerebral malaria when correctly diagnosed has 50% fatality. In late and complicated stages they however have the same prognosis. The bottom line is to make the correct diagnosis early in the timeline of the disease to make a difference. Based on the autopsy study all cases of suspected cerebral malaria should be investigated for meningitis early in the course of the illness. However it should be noted that not

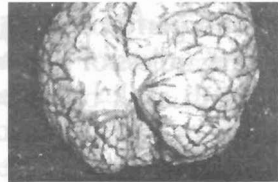
all diagnosis are straightforward and autopsy should be requested in clinical cases to confirm diagnosis after death.

■ **Meningitis not cerebral malaria**



Can these brains live? A journey into
the Academy of Chinese

■ **Meningitis not cerebral malaria**



Can these brains live? A journey into
the Academy of Chinese

Autopsy pathology is the essence of modern clinical science. It is a place where truth can be sought, found and told

It is the ultimate quality management tool and mortality statistics are not reliable without the autopsy. It was the autopsy that first recognized the emergence of new environmental disease like Asbestosis. It is the autopsy that helped to improve our understanding of the relationship between tuberculosis, Kaposi sarcoma and HIV. We need to revive the art of the autopsy, standardize the autopsy and release autopsy reports on time . The Clinicians should submit requests on time and follow up such requests. The clinicians should also make time to be available for autopsy rounds.

Proper consents where necessary should be obtained from relatives and they should be educated on the outcome of the autopsy at the autopsy conference. Remember clinical autopsy cost nothing to the patient and relative as it forms part of the medical audit while medico legal autopsy is the prerogative of the state or nation and the state can choose where it wants it to be done at the discretion of the appointed coroner and the attending physician. The autopsy suite is where death rejoices to come to the aid of life and corpses should be

treated with respect and dignity. Proper autopsy protocol helps to avoid false information, false diagnosis and eliminate potential errors in management.

THE SILENT KILLERS

Silent killers are diseases that tend to produce minimal or no symptoms and are capable of causing death in patients if they go unrecognized or are not discovered early enough and managed appropriately. To these I will add other causes of natural or unnatural deaths that cause death among us on a massive scale in which we as individuals or the government are silent about and they thus go unrecognized as silent killers among the people.

The Major Silent Killers

1. Cancer
2. Heart Disease
3. Hypertension
4. Diabetes

The second category which is hardly given attention among our people and I believe is common among us are

1. Road Traffic accidents
2. Poverty
3. Malnutrition especially under nutrition and Obesity.

These seven major events are responsible for a large proportion of deaths in our nation and we are doing very little to stem the tide. I will discuss in depth Cancers and deaths from Road traffic accidents both of which form significant factors in mortality in our environment and keeps the morbid anatomist busy and asking whether these dead bones can in fact live. However I will start by mentioning the other silent killers for us to be well informed of the

potential risk some of us take and how to avoid or limit them so that we may live long in the land where God has planted us.

Heart disease is the most important silent killer worldwide and its major ally is hypertension. If hypertension can be controlled, smoking abolished and we consciously change from a sedentary lifestyle with an aggressive way of lowering high cholesterol levels in those that are predisposed, then Heart Disease will no longer be a leading cause of death in the world. Smoking is a major risk factor in heart disease and when the world is actively fighting tobacco companies and closing down factories in Europe and America we gave them a license to establish the biggest factory in Africa at Ibadan. This may make economic sense for revenue but at what cost to the life of Nigerians. Smoking is the major preventable cause of death in many diseases including cancer and lung diseases. You can determine how long and how well you want to live by not adding cigarette smoke to your list of worries for smoking kills. You have a right to determine that the air you breath is free of dangerous cancer forming substances and of recent some advertisement has alluded that smoking is a self inflicted suicide and homicide to people who live with smokers.

Smoking Kills



Can these horses live? A Journey into the Anatomy of Disease

The following figures about heart attacks are real and frightening:

1. 37 Million heart attacks occur each year
2. 15 Million of these attacks results in death
3. 75% of heart attack victims die before reaching the hospital
4. In America heart diseases kills more women than men
5. The risk of second heart attack is higher in women
6. South Asians are more prone to heart attack at a younger age
7. Hypertension is silent until it presents as a complication of organ damage
8. If you quit smoking you can add 5 years to your life
9. Watching the football world cup significantly increase the risk of heart attack
10. Hostile personalities have an increased risk of heart attack
11. Eating fish once a week can reduce your chances of heart attack by 52%

In order to live long and avoid heart attack I will recommend that you quit smoking if you smoke, eat fish once a week, have a friendly and hearty disposition if you are always angry and do not watch the football world cup live. I believe then your old bones will live.

I was on sabbatical from October 2006 at the University of Calabar, Calabar and early in 2007 was called to perform an autopsy on a university professor that went to work apparently healthy and suddenly slumped and died while working. This is the classical sudden unexpected death usually related to the heart. It turned out that he had a ruptured aorta, the very big vessel that carries blood away from the heart. This among many causes results from complications of severe and prolonged hypertension, a silent killer.

The Deadly Pair of Diabetes and Hypertension.

High blood pressure is reputed to cause 7.6 million deaths globally in 2001 and the number has steadily increased over the last decade to

about 15million in 2011. Men are significantly more likely to be hypertensive than women. Most men are not aware of hypertension and most default from the hospital. Hypertension in Africa was found to be prevalent in urban than in rural areas and the effects of hypertension can be moderated by a change in lifestyle. Hypertension in our experience kills by organ derangement and failure. The organ damage occurs silently. Among the organs that can fail or malfunction and cause death are the brain, the heart and the kidneys all which result in death sometimes without warning. Rule of thumb is to know your blood pressure and seek professional help to monitor it if high.

Diabetes as a silent killer disease is notorious as it affects 346 million of the world population which is about 6%. It is believed 80% of the 346 million live in the developing countries a heavy burden on the health resources. By the next 35 years 1 in 4 individuals as projected will have issues with Diabetes and India with a population of 1.2 billion people will lead the world in the number of diabetes individuals. India will thus assume the notoriety of being the diabetes capital of the world. Until recently Diabetes was thought to be a disease of affluence and was thought to be uncommon in Africa. In the year 2000 approximately 7.1 million Africans had diabetes. The number has steadily increased since then. Diabetes in Africa is more prevalent among the wealthy and the obese although not limited to them. Obesity is a strong predisposing factor. The world Health organization believes that 30% of African women are overweight while 25% of African men are overweight. Diabetes accounts for 3.8 Million deaths and majority occur in the developing world. The mortality figure is similar to HIV/AIDS although AIDS does not affect 6% of the world population. It should be noted that in a study in South Africa 60% of Diabetes died while on treatment. It is thus apparent to diagnose diabetes early and control and manage appropriately to avoid sudden deaths. Although Diabetes is a silent killer affecting many individuals it can be suspected by routine blood and urine testing. In a country where routine medical check is not

practiced or encouraged, Diabetes will continue to be a major silent killer.

CANCER as a Silent Killer

In 1985 a very close relative of mine suddenly took ill and was rushed to the hospital. I was a medical officer in Sagamu in Histopathology and was called. He presented with what was called an appendicitis which the surgeon removed and was sent home. After 3 months he presented with intestinal obstruction and was taken to the theatre. At operation he was found to have an inoperable cancer of the colon. A histological examination of the specimen showed a mucin secreting adenocarcinoma of the colon with metastases outside the colon to other organs of the body. Cancer rarely develops and spread widely in 3 months from the recognized timeline in the development of cancer. This means the cancer was silent and may have precipitated the appendicitis that was diagnosed earlier. I have since discovered that cancer generally is a major silent killer in our environment that goes unrecognized and undiagnosed until it is sometimes too late.


Overview of Cancers

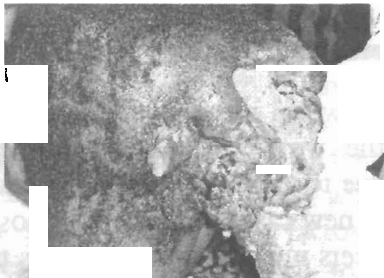
20,000 people in the world die daily from cancer, One in eight or 12.5% deaths in the world are due to cancer. Cancer deaths outnumber deaths due to AIDS, Tuberculosis and malaria combined worldwide. In 2007, new cases of cancer diagnosed were 12 million. The commonest cancers in males were the lung, the prostate and the colon while in females it is breast, the uterine cervix and the colon. These figures are slightly different from what we found in the cancer registry in Ife in 2011.

The best way to avoid cancer is to prevent it by avoiding the predisposing factors or to diagnose it early with a potential for cure. It is generally agreed that before a cancer is diagnosed it would have taken about 10 years for the progression of a normal cell to a cancer cell and finally to a detectable mass. In the developing countries an

additional 1 year delay may also occur in diagnosis so most of the cancers here are diagnosed very late. The time used to consult pharmacies, nurse practitioners religious homes faith healers and non specialists' doctors in cancer diagnosis and local herbalists is wasted before an appropriate final diagnosis. This silent killer has now assumed a frightening reality not only about the silent process that precedes the emergence of the cancer clone but the delay in diagnosis that follows.

The delay in diagnosis can be seen in the following case illustration

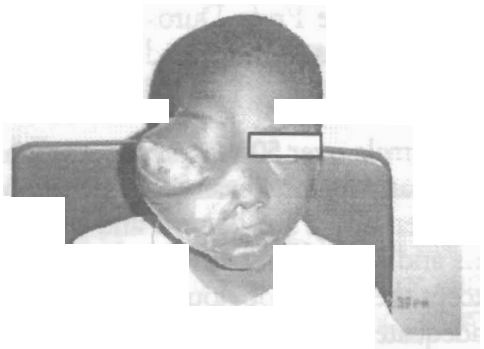
- 
Sarcoma that has destroyed the Scalp



Can these bones live?. A journey into
the Anatomy of Disease

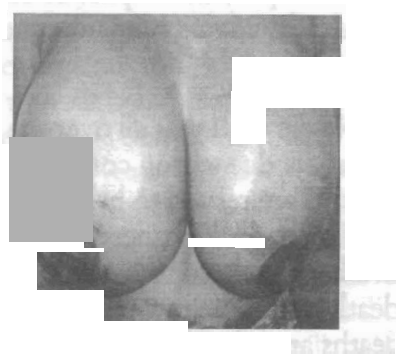


Retinoblastoma that has destroyed half the face



Can these bones live?, A journey into the Anatomy of Disease

Bilateral Breast tumor in a school girl



Can these bones live?, A journey into the Anatomy of Disease

The cases presented have since all passed away but since but then we have been picking cancer up early, the oncology team made up of both laboratory physicians and surgical and medical oncologists has been able to document medical miracles even in this community. Many of the cases are among us and some are still living 10 years after diagnosis. I acknowledge Profs Durosinmi and Lawal among many others for the joint efforts to keep dead bones alive in our local community.

I will suggest that every male over 50 years and every woman over 40 years should go for a yearly medical examination that should include a prostate screen for men and a PAP smear and breast examination for women. Africans and Nigerians loath hospital visits and will not attend a hospital except there is an obvious indication. However in a system that lacks adequate guarantee for optimal health facility for diagnosis and for the management of cancer with little or no welfare package it is better to look at the affordable option of preventive and promotive health rather than wait to receive a gloomy verdict.

In Nigeria based on a recent study carried out in the cancer registry where I am the director in 2011, Prostate cancer is now the commonest cancer in males while Breast cancer is the commonest in females. If we have to compare the impact of silent killers to other factors responsible for deaths among human populations we have the following to consider

1. 56 Million people die each year all over the world
2. 35 million deaths are due to non communicable diseases
3. 17.5 Million deaths are related to heart diseases
4. 7.6 Million deaths are due to cancer
5. 7.1 Million deaths are related to hypertension
6. 4.4 Million deaths are somehow related to high cholesterol
7. 3.2 million deaths are related to Diabetes
8. 2.6 Million deaths are related to obesity
9. 1.2 million deaths are related solely to RTA

ROAD TRAFFIC ACCIDENTS

Mortality from road traffic accidents is assuming an alarming rate in most developing countries including ours. There is a terrific noise heard at the scene of accidents from impact of various materials travelling at high velocity on each other. However the government is silent on the mindless loss of youths that are daily killed and the decimation of the productive age class that is responsible for building our future.

The major factors responsible for deaths on our roads are

1. The Road Network. Only 10% of our roads are good. This will mean 90% of our roads may contribute to accidents because of bad design, poor construction and poor maintenance
2. The Road User. To drive a car in Nigeria in most cases you do not need to go to accredited driving school. A relative can teach you and you instantly become professionally and internationally certified. The knowledge of road signs and road ethics is of secondary importance
3. The Vehicles. Most of our vehicles are not roadworthy and most are really accident prone in motion. There is little attention to proper vehicle care and to get a roadworthy certificate depends on who you know as vehicles can be certified without being seen
4. Motorcyclist. These belong to a special breed of people. Until about 15 years ago the menace and the frequency of accidents involving cyclist was little known. It is apparent that riding an okada confers on the rider some extraordinary spiritual possession that manifest in demonic violence and mayhem with a false sense of invisibility from fatal accidents. The reason that helmets are still being resisted in the 21st century Nigeria by cyclists themselves speak volumes on the premium we place on human lives. I want to put on record

that from studies done including in Nigeria that helmet save lives just as seat belts save lives in cars. It is madness to ride Okada without a helmet as the most important part of the human body the skull and brain is left unprotected.

In 2007, there were a total of 17,797 accidents recorded by the FRSC. About 5,789 of these were fatal and about 9,390 persons were killed in the fatal accidents. This is gross underreporting as most accidents are not reported because of fear of the police investigation and unnecessary demands placed on witnesses. Most would want settlement without police involvement.

Accidents on OAU Campus

To bring the point home, between 2003 and 2008 I was able to compile the list of accidents in Obafemi Awolowo University and discovered that 2 major accidents occur every month. That will give an average of 120 accidents over the five years. During the same 5 years, 9 people lost their lives including a prominent voluntary member of the marshal on campus who had an accident on road seven. Some of the vehicles involved during my compilation are shown on the slides that follow. Many members of the community will remember the young man that drove his car very fast and it ended on the tree on road 1 or the death of the medical student who was rounding up and ended his life on road 2 in front of the faculty of pharmacy. The whole network of roads on campus is less than 20 kilometers and one death even in five years is one too many. Most of the deaths are due to severe head injuries. The two main events predisposing cars to accidents on campus are over speeding and alcohol intoxication and in some cases immaturity of drivers and this does not refer to chronological maturity.

Accidents on OAU Campus



Accidents on OAU Campus



THE SICK HEAD

The head is one of the most important part of the human anatomy. It houses the brain which is protected by the skull. My special interest is in brain pathology. One of the important observations made here is that traumatic brain injury in one form or the other is responsible for most fatalities in RTA. 80% of all head injuries are due to RTA. Majority of cases die because of delay in transportation and inadequate facility to manage head injuries. Of those who survive majority are left with spinal cord injury as observed in our facility with the neurosurgeons. It is instructive to know that 40% of all traffic related deaths occur in the developed countries where you have 89% of all automobiles. However in developing countries where you have just 11% of all automobiles 60% of all traffic related deaths are found to occur. India and Nigeria lead the developing world in traffic related deaths. In the last 30 years the incidence of traffic related deaths has increased by 350% in developing countries while it has decreased in the developed countries because of safety measures put in place and enforcement of such measures. It is now apparent that the greatest human wastage in India and Nigeria occur between the ages of 15years and 45years especially in males from road traffic accidents. This is largely preventable.

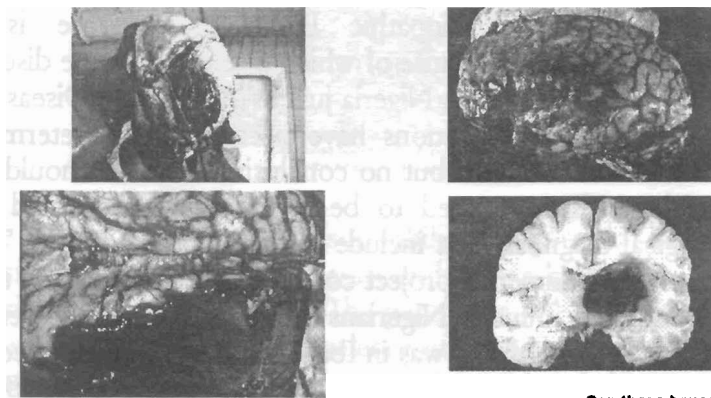
The deaths from traumatic head injury are due to

1. Brain hemorrhages
2. Brain Lacerations
3. Diffuse axonal injury and diffuse hypoxic injury

Our experience in Ile Ife has shown the commonest cause of death from traumatic head injury is brain hemorrhage which may not be obvious. This may be with or without skull fracture. The commonest types of hemorrhage seen are extradural, subdural and subarachnoid hemorrhages. With the extra cerebral hemorrhage we may see contusion hemorrhages affecting the white matter. Diffuse axonal injury is however not a very common phenomenon in

Nigeria. Brain lacerations are however very dramatic and when seen it is almost always associated with open skull fracture. Death usually occurs at the scene of accident and witnesses usually will see the brain substance outside the skull cavity. One horrific traumatic brain injury seen in Nigeria is decapitation following road traffic accident. This type of injury is common because of abandoned articulated vehicles on our road network without reflecting signs indicative of their presence. A recent decapitation occurred when a family of 6 travelling along Ilesha Ife expressway road on the way to a religious retreat in Lagos ran into a stationary articulated vehicle. The whole family except for a little baby was decapitated with the head severed from the necks. The picture is too horrific to display. The child also died from multiple severe injuries. Except we provide alternative form of haulage and educate our truck and trailer drivers and of course instantly move abandoned or broken down vehicles from our road network these types of injuries will continue.

DEATH FROM BRAIN HAEMORRHAGES.



**Can these bones live?
A journey into the
Anatomy of Disease**

Other forms of traumatic brain injury seen in our environment are injuries from firearms either accidental discharge or from deliberate gun shots from hunters. Suicide from gunshot injury although seen is not common place except in service personnel. The most celebrated gunshot injury was the accidental discharge to a celebrated Olympic hopeful runner in Lagos several years ago Mr. Dele Udoh. Ever since then I don't argue with men with guns at checkpoints. He was given a mini state burial but the killer remains unknown. On campus another student unfortunately suffered a gunshot injury while engaged in a scuffle with a security detail in front of a supermarket. The entrance and exit wounds are clearly seen. Many of our cyclists die from traumatic brain injuries to the head because of total disregard for the use of helmets. In Calabar where the use of helmets was enforced by the government the incidence of traumatic brain injury from motorcycle accidents has almost disappeared. Abuja has followed this example and had seen the same dramatic reduction in brain injury.

FOCUS and ACCOMPLISHMENT.

NEURODEGENERATIVE DISORDERS

The work that we did in Ibadan on Idiopathic Parkinson's disease was an eye opener. Idiopathic Parkinson's disease is a neurodegenerative illness the cause of which is unknown. The disease is thought to be uncommon in Nigeria just as Alzheimers Disease is uncommon. Various explanations have been given to determine while dementia is uncommon but no conclusive data. It should be noted that these diseases need to be conclusively confirmed by histopathological diagnosis that include histology of the brain. The Ibadan Indianapolis dementia project conclusively demonstrated that Alzheimers disease is found in Nigerians but the incidence is lower. I was part of this project while I was in Ibadan and the current director is Prof Sola Ogunniyi and Prof EEE Akang is the neuropathologist working currently on the project. In 1992, I collected midbrain

specimen from elderly Nigerians who were asymptomatic. These brains were taken to the Institute of Neurology in Britain. The brains were examined at the Parkinson Disease Brain Bank under the guidance of Prof. Andrew J Lees the Director and Dr Susan, the pathologist on the project. Along with other researchers we found that incidental Lewy body disease was found to be 4% in the brains of asymptomatic Nigerians the first time it was being documented. This is similar to what is found in India and slightly less than the 6% seen in Caucasians.

The Lewy Body



Can these bones live?, A journey into the Anatomy of Disease

The Lewy body is an eosinophilic cytoplasmic inclusion that consists of a dense core and surrounded by a halo. The component consists of alpha-synuclein. The paper was published in the Lancet. It demonstrated that the prevalence of incidental Lewy body disease is similar in developed and developing world and the reason for the sharp difference in idiopathic Parkinson's disease in the world may be

somehow related to ethnic differences with environmental protective mechanisms. It remains to be explored why this is so. Asians however have been known to have an incidence midway between that of Nigerians and that of the developed world from the works of my friend Uday Muthane who also worked at the Brian Bank.

My investigation of Brain tumors in Nigeria was able to accurately document that Brain tumors is not as uncommon as was thought. With the improvement in Neurodiagnosis and increase in the number of Neurospecialist we started to see Brain tumors in Ibadan and of course also in Ife. I collected all brain tumors seen in Ibadan over an 11 year period and discovered that gliomas are now the commonest primary brain tumor. This has changed from the time of Edington and Williams when choriocarcinoma was the commonest malignant brain tumor and Meningioma was the primary brain tumor. Choriocarcinoma is a malignant tumor of the endometrium in women of child bearing age that spreads to the brain commonly. The study in Ibadan also discovered that brain tumor was the second most common tumor in children. The specific histology types were also found to be similar to the study in other parts of the world except for the fact that craniopharyngiomas is predominantly found in the sella turcica region of children in Nigeria. It is now common knowledge from my work that indeed although metastatic tumors still form the largest group of tumors found in the brain astrocytoma and glioblastomas are now seen frequently in adult Nigerians. Choriocarcinoma still remain the single most important tumor that easily spreads to the brain. As the frequency of this tumor decreases in women due to access to better health facility so will the metastases from the tumor will be found to decrease.

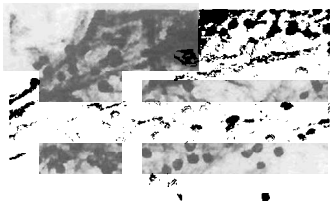
This has been found to be the pattern also in Ile Ife except that we also see a lot of meningiomas. Brain metastases occur from others sites like the breast the colon and from involvement of the brain by Burkitt's lymphoma. Among children the pattern of brain tumors differs. Primary Neuroepithelial tumors are found to be the

commonest tumors seen in this age group. This accounts for almost 60% of tumors seen. The tumors include Astrocytomas, Medulloblastomas and Craniopharyngiomas. Metastases in children are quite uncommon as the tumors that give rise to metastases are predominantly found in adults

The Brain smear

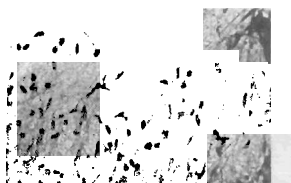
Arising from the difficulty of establishing neuropathology services, I had looked inwards to determine an appropriate affordable and rapid method of diagnosis. The frozen section for brain tumors had been in use for several years all over the world. The challenge of electricity and availability of liquid nitrogen gas for the cryostat has made this service redundant in our environment. The alternative was to introduce the brain smear technique. The study I did was able to provide a cheaper alternative in the use of brain smear technique for diagnosis as an alternative to frozen sections in the developing countries like Nigeria. This method has been adopted in many developing countries by neuroscientists.

Brain Smear Normal



Can Smear Smear Sm7: A Journey into
The Anatomy of Disease

Diagnosis of Astrocytoma with
brain smear



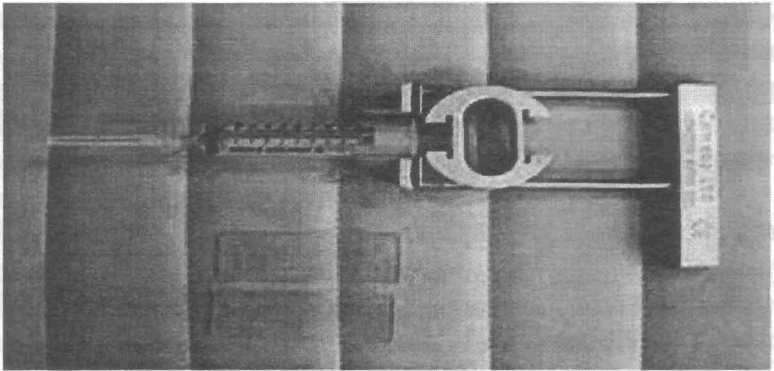
Can Smear Smear Sm7: A Journey into
The Anatomy of Disease

The method of brain smear requires the specimen be submitted in normal saline to be as fresh as possible and requires some training by the neuropathologist to understand the difference between histology and the smear technique. Some of the diagnoses made in our hospital are seen in the pictures.

FINE NEEDLE ASPIRATION CYTOPATHOLOGY

In 1995 when I joined the service of this university, I discovered that one of the tools of diagnosis in pathology was rudimentary in Ife. The method of FNAC was firmly established in Europe and America and South Africa. The method started in the 18th century and by the 19th century it has spread from the pioneers in Europe to America. The method is a simple technique in which an appropriate needle is inserted into a mass lesion and under a vacuum pressure cells are sucked into the core of the needle and examined on a slide. It is an outpatient procedure that can be performed in the clinic. The diagnosis is available in 24 to 48 hours. It is a rapid affordable method of diagnosis that avoids hospital stay for biopsy.

FNAC Instrument

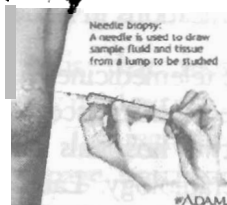


Can these bones live? A Journey into
the Anatomy of Disease

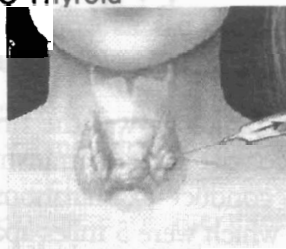
To use the FNAC requires additional training by a cytopathologist and confidence from surgeons. Initially there was resistance because the surgeons were not sure whether results will be accurate.

However I with Dr A F Fadiran did a trial run on breast lesions and as soon as the surgeons realized the safety the rapidity of the diagnosis it soon became accepted and today FNAC had been part of the diagnostic armamentarium in pathology. As of today we have done over 5,000 FNAC and I have trained over 10 pathologists in this technique in Ife some of which are now professors and include my current head of department. Many of the cytopathologists that I have trained are practicing from Maiduguri to Kumasi in Ghana. Our experience in Ife has been documented in many journals. The sensitivity of FNAC of mass lesions in Ife is 93% and specificity is 100%.

FNAC Breast



FNAC Thyroid



This is a moderate achievement for us and our clinicians now rely on this method to make a rapid diagnosis. With the help of our radiologist we can now reach even deep seated lesions using ultrasound guided FNAC. The FNAC in our department correspond to histological diagnosis in 99% of cases which is a good achievement.

TELEPATHOLOGY – Bridging the Knowledge gap

Mr Vice chancellor, I cannot conclude without mentioning my recent foray into telemedicine or specifically telepathology. I got involved by default when a group of researchers visited the Obafemi Awolowo University Teaching Hospitals Ife to showcase this method of

assisted diagnosis. I was later asked to present a paper on this topic to the association of pathologist meeting in Calabar. I believe that OAU that prides itself in Information technology and internet wizardry should lead in telemedicine in Nigeria. We have been able to use some form of rudimentary telepathology in our department in Ife. On a trip to Canada recently one of my residents asked for my opinion concerning a neurosurgical case and I was able to accurately give the diagnosis and advice the surgeons from a distance of over 6000 miles. We were able to review representative sections of the slides he processed in Ife and sent to me online. This helped in the management of the patient without a delay in diagnosis.

BACKGROUND

Telepathology has its origin in telemedicine and it is a generic term encompassing the use of visual telecommunications in health care

In 1959 radiology was the first to try out telemedicine. Albert Jutra used a coaxial cable to transmit videotaped telefluoroscopy. He was able to conduct examinations between two hospitals in Montreal Canada which were 5 miles apart using teleradiology. Later in Boston in 1968 a microwave based telecommunications system was established between Massachusetts General hospital and a medical station at Logan Airport. Live black and white images were transmitted from a clinic at the airport of blood smears to the hospital. In 1974 a satellite communication was used to transmit histological images and clinical data from a 17 year old male on board a ship of the coast of Brazil to a hospital in Washington DC. A team of consultants were then able to diagnose mediastinal lymphoma with leukemic infiltration. This became possible with a telesystem consisting of two telephone lines to transmit voice and images of the tissue sections including marrow smears from a microscope video camera respectively. A teletype provided data communication and facsimiles of drawing and diagnosis were sent at a rate of one page every six minutes. Our faxes have since become faster. An ECG

transmission unit and electronic stethoscope relayed ECG and heart sounds.

On August 20, 1986 there was a public demonstration of telepathology using a satellite linked color video dynamic telepathology system between an Army Medical Centre in El - Paso Texas and Washington DC. This procedure involved frozen section of breast tissue which was captured by Olympus Vanox motorized microscope equipped with a video camera in Texas and the full color image then transmitted to Washington DC. A pathologist in Washington DC was able to control the microscope stage movements magnification focus and illumination while viewing the images at a prototype workstation in real time. Two way audio communication was also available. This marked the next phase in pathological diagnosis.

The reality is that most pathologists have never heard about telepathology until recently. Few understand what it is and fewer are practicing it. The ingredients that drive telepathology are advances in computer image processing, the development of the internet and telecommunications technology. Telepathology can thus be defined as the acquisition of histological and microscopic images for transmission along telecommunications pathway for diagnosis, consultation and continuing medical education . In the most basic form a telepathology system should consist of a microscope, a camera mounted on the light microscope, a telecommunications link between the sending and the receiving sites and a workstation at the receiving end to view the high quality images on a monitor.

There are basically two types of telepathology, The affordable static telepathology otherwise called the store and forward or sometimes known as the passive telepathology the model that can be developed for the local environment and the much more expensive and advanced Robotic Interactive pathology or known as the dynamic telepathology or active telepathology or real time telepathology. The

affordable cheap option that I am developing for our department needs only a standard telephone line and internet connection. The images that we need to capture varies from one to forty images . The advantages of using the internet is cost and availability. Sending static images will cost you little but the issue of security has to be factored in. Telepathology involves training and retraining of the pathologist .

Transition from microscopic images to digitalized images has to be learnt and the expertise acquired. The accuracy of telepathology varies between 81% to 100% in expert hands according to Esuebi and Juan Rossi. The future of telrepathology lies in mainly teaching and external quality assessment especially in areas where pathologists are few. In areas where autopsy is a challenge students can watch autopsy images in another location and gain autopsy experience .

APPLICATION OF TELEPATHOLOGY AND THE LOCAL EXPERIENCE

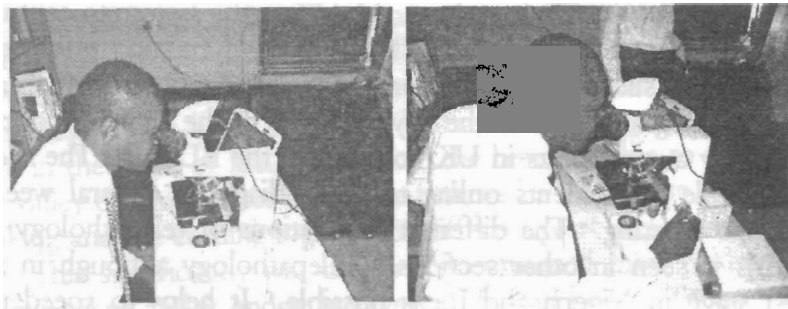
Telepathology can be applied at remote sites that cannot support a full time pathologist. It can be used to consult a colleague or experts in particular fields and of certain experience and exposure as is been done in some of our lymphoproliferative disorders. It can be a useful tool in quality assessment program. It can be used as a training tool to train to teach students scattered throughout the country. Cyber conferences is now possible with telepathology and international collaboration exists in the world. There are currently

1. The Atlantic Run Network consisting of Europe, the United States and South America
2. The international consortium on the Internet and telepathology which include the Japan, the United States and the United Kingdom
3. The European Pathology Network assisted by Telematics for Health (Europath)

As in any new field there should be regulations. In 2005, the royal college of pathology in the UK published a guidance document on telepathology. As telepathology become established a new crop of pathologists will likely emerge who may now prefer digital images to traditional hands on light microscope. This may become a reality earlier than expected as a new publication in the August edition of 2009 in Human pathology has shown. Another survey in the UK identified that only 12% of histopathologists have equipment for telepathology and only 24% of them had used telepathology in a diagnostic situation and about 59% of pathologists had not received training in digital imaging. In Nigeria only 3 centers are believed to have the pathologist and the equipment required for telepathology. The centers are Ibadan, Lagos and Ife.

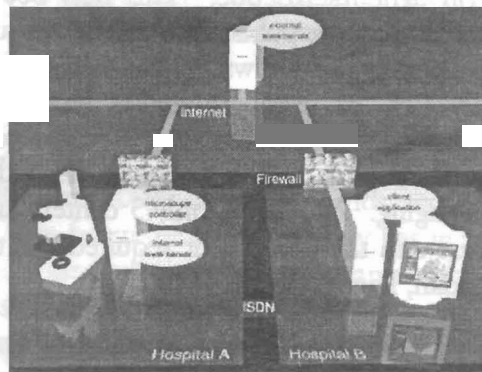
Local Adaptation

Simple basic requirement Add a laptop or projector



**Can these bones live?
A Journey Into the
Anatomy of Disease**

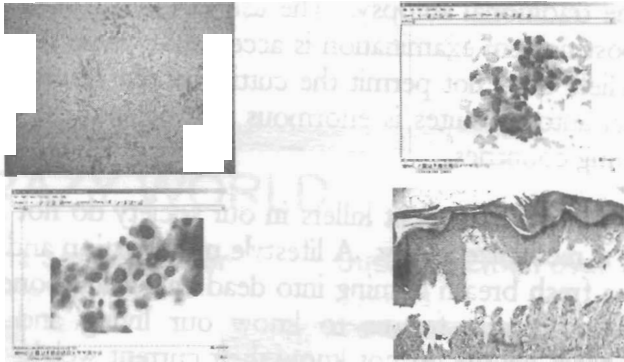
Classical telepathology system



Can these bones live?, A Journey Into the Anatomy of Disease

The basic pathology system in Ife in the department of Morbid Anatomy is seen in the illustration. The component is made up of a Leica light microscope with camera attachment and a computer to capture the images. We have been able to use the system to capture slides and have used it for both diagnostic and training purposes. Some of the slides below demonstrate the diagnosis made, an inflammatory granuloma of the thyroid used in the training course attended by our residents in UK courtesy of the BDIAP. The slide was available to residents online to make diagnosis several weeks before the meeting. The different applications of telepathology to diagnosis is seen in other sections. Telepathology although in its earliest stage in Nigeria and Ife is possible. It helps to speed up consultations and many of our colleagues can benefit from local collaboration as it is not possible to employ all cadre of specialist in all locations.

Examples of telepathology diagnosis



Can these bones live?, A Journey Into the Anatomy of Disease

CAN THESE BONES LIVE

Mr. Vice Chancellor, Morbid Anatomy in most cases is associated with hopelessness and dealing with disease death and the dying. I have tried to inform the audience that there is a message of hope. Can these bones live?, only God knows was the reply that Ezekiel gave in the book of life. God asked the breath of life to come into the valley of dead bones and there followed a loud noise and then a shaking and the coming together of different parts and the bones did live. This significantly was the first documented mass postmortem examinations and it ended in reversal of dead bones. Today I have tried to allow a fresh wind to blow into our understanding of morbid anatomy to cause a shaking together of all our entrenched and faulty beliefs and foundations and to produce a living knowledge and a better understanding of the basic anatomy of disease. Yes dead and

dying bones can live. *Morbid Anatomy* is not only about post mortem examination on the dead. The post mortem examination itself is on the decline worldwide including here in Nigeria as shown by Odesanmi and Olasode. Recently technology advancement has led into the introduction of the virtual autopsy which avoids this method of the traditional autopsy. The use of the CT scan and the MRI to do postmortem examination is acceptable where religious or traditional beliefs does not permit the cutting of the corpse but the cost of virtual autopsy suites is enormous and beyond the reach of most developing countries.

I have tried to show that silent killers in our society do not have to remain silent if recognized early. A lifestyle modification and change can result in a fresh breath coming into dead and dying bones. It is of most public interest for us to know our living and healthy parameters. Most people do not know their current weight or their current blood pressure and fewer still have gone for a medical examination in the last year. The knowledge of these parameters and the applications of what you know can actually give an insight into your current state of health and identify silent killers hibernating in your life.

IMPORTANT HEALTH PARAMETERS

1. Know your Blood Pressure
2. Know your Fasting Blood Glucose
3. Know your Current Weight
4. Know your Cholesterol levels
5. Know your waist line measurement

The figures should be measured yearly in other to maintain good health. Some like blood pressure and current weight should be measured more regularly.

Of recent are a new crop of individuals are emerging who are committing slow suicide without knowing. A new challenge in the developing world is that obesity is now emerging as a silent killer. In a crazy world two women are now competing to become the fattest woman in the world. The two women are now eating themselves to death.

CRAZY WORLD

**Donna Simpson over
500pds**



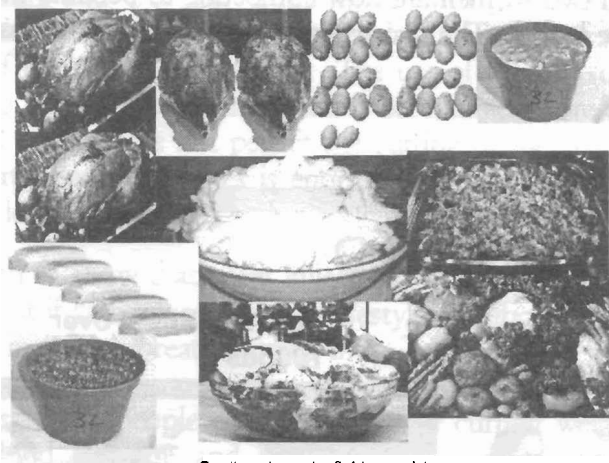
**Susanne Eman over
700pds**



Can these bones live? A journey into
the Anatomy of Disease

In 2010 for Christmas dinner one of the women ate a whopping 30,000 Calories for dinner

The 30,000 Calories diet



Can these bones live?, A journey into the Anatomy of Disease

The Diet of 30000 calories for Christmas.

Obesity and obesity related complications alone accounts for the deaths of 2.6million yearly. This is more than deaths associated with breast cancer or diabetes. It is now becoming a problem in Europe and America and it has become epidemic even in children in some countries. The increase in the incidence of obesity has increased the risk of obstructive sleep apnea a risk for sudden death during sleep. Many Nigerians are slowly following the paths of obesity at great cost to their lives. An accomplished academic recently succumbed to a comedy of errors when gross obesity was not factored into his clinical management and he succumbed to the effect of gross obesity on his breathing apparatus when he was overtly sedated without sufficient pulmonary reserve.

Silent killers should be recognized before they cause pain and hardship to individuals. If you find you are grossly overweight and have a tendency to fall asleep in the midst of a crowd and snore at night then it is high time you do something about your weight. Obesity and Smoking are two silent killers you can wholly control personally in your life. You can reduce your weight and give up smoking to live long.

Smoking Kills in Many Ways.



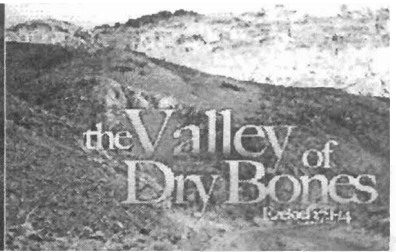
bones live?. A journey into
Anatomy of Disease

Mr. Vice Chancellor the journey of a thousand miles begins with the first step. My journey in Morbid Anatomy has seen many trials and triumphs. I have been blessed with mentors such as Prof Olufemi Williams, Prof Irwin Samuel, Prof Ed Atta who are the first three provosts of the Calabar University Medical School and Prof T Junaid who was my teacher in Ibadan. I must mention Prof W O Odesanmi

whom I first met in Calabar in 1982 and was instrumental in my relocation from Ibadan to Ile Ife. To these eminent pathologists I say thank you. As a neuropathologist I also benefited from exposure at the Institute of Neurology, London and Western General Hospital Edinburgh both in the United Kingdom. I appreciate the contributions of my colleagues both within and outside pathology to my development. I am also grateful to all those I have mentored since I came into morbid anatomy among whom are the current chief medical director at Owo Federal Medical Centre , a professor of Histopathology in Maiduguri, a pathologist that has been donated to Kumasi Medical school and my current head of department.

Many more are scattered all over the country and some are doing us proud outside the country. I hope my period of hard discipline to the mentees has produced in them the desired goals and results. We may not be able to do nothing about the past but we can control the present to surely change the future in terms of the direction our health is heading. These bones can live if you give your future a new breath of life by planting a new seed of a healthy lifestyle today

To my parents Venerable Emmanuel Obasesan Olasode and Mrs. Florence Subusola Olasode without whom I will not be here today, to my lovely daughters whom I refer to as my princesses and BOAJ and daughters unlimited (BOAJAD) and to my wife of 28 years Olayinka Abimbola Olasode the daughter of Pa Folake Ojelade and Mrs. Olajumoke Susannah Ojelade, my precious jewel of inestimable value whom I was fortunate to meet and marry and to the Almighty God the father of my Lord Jesus Christ who in his time makes all things possible and beautiful I say thank you all. This is just the beginning.



CAN THESE BONES LIVE

Yes if you and I do something about it.

Can these bones live? A journey into
the Anatomy of Disease

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