# UNIVERSITY OF ILORIN

**THE TWO HUNDRED AND EIGHTEENTH (218th)**
**INAUGURAL LECTURE**

# "THE DOCTORS' DOCTOR: WEIGHING CLINICAL AND MORPHOLOGICAL EVIDENCE TO MAKE LIFE CHANGING DECISIONS"

**BY**

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Heads of various Departments and various Units, especially the Head of the Department of Pathology,
All Members of the Academic Staff,
All Members of the Non-teaching Staff,
My Lords Spiritual and Temporal,
Members of my Nuclear and Extended family and other Relations,
Great students of this noble institution, especially Medical students,
Gentlemen of the Print and Electronic Media,
Distinguished Invited Guests,
Ladies and Gentlemen.

**Preamble**

To begin, I will like to express my profound gratitude to the Almighty Allah, the Maker of all things, seen and unseen; the Beneficent; the Merciful; the Great One who fulfils dreams and aspirations, and to His glory, I stand before you today, as a Professor of Pathology to deliver this Inaugural lecture. This is the 218th in the series and the second from the Department of Pathology of this

University, coming after that of Prof. E. A. O. Afolayan, which was titled, 'CANCER! The Sledgehammer of Death? No! Not a death sentence, if…'. This was delivered on the 9th of December, 2021.

**How it started**

I was born into a typical Nigerian family that had enough to eat but barely enough for anything else as the second child of my mother. I was born in Lagos but as it was the tradition back then, you were sent to the village to stay with grandparents once another child was born after you. In Omupo, Ifelodun Local Government Area of Kwara State, I had to compete with my kindred for the attention and scarce resources of my aged grandmother and uncle.

I attended my local primary school, St Michael School, Omupo and afterwards gained admission to the then Government Technical College, Jebba where I spent a year. I transferred to Okelele Secondary School with the hope of starting Form 2there. However, after spending 2 weeks, I was going to be demoted to form 1 as I was assessed to be incompetent for that class' standard. I then moved to Babanloma to complete Form 2 at the Muslim Council College. I will later end up at Omupo grammar School at the insistence of my uncle who would not allow me to drop out of school after seeing the tendencies. My school grades continued to suffer as I was not paying enough attention.

On the fateful day that my life would chart a course of abrupt turnaround, my Mathematics teacher, Mr Ahmadu Jones, a Ghanaian, had administered a test and was returning the scripts to each student in class. We were all to stand up as our names were called and were to sit down as we received our scripts. At a point, I was the only

one left standing and then Mr Jones turned to the whole class and proudly proclaimed I had gotten a perfect score in what was a difficult test. He went on to say I would have the world down at my feet in years down the line. To say I was baffled would be an understatement.

That event marked a turning point in my life; a fire was lit inside me and I had a burning desire to be the best. Mr Jones took me under his wings and mentored me. School became more fun because I had discovered an innate ability that hitherto had been suppressed. I went on to be the best in every subject in school, a winner of several quiz and debating competitions in Kwara state. I graduated with almost perfect scores in the School Certificate Examinations.

In the University, the first year rolled by smoothly but I struggled in the second year. The problem was that I adopted the study strategy of one of my classmates; trying to fix what was not broken. This changed in my third year as I reverted to my personal style of learning and proudly held my own amongst my classmates that year. That defined my clinical training years and I became a doctor at a relatively young age.

**The Crossroads-why Pathology?**

After my "Housemanship" and "National Youth Service", I was faced with making the difficult choice of either pursuing Postgraduate studies/Residency training and becoming a Fellow/Specialist or going into private practice. The poor remuneration in Clinical Residency and the long punishing hours were discouraging, and so, I forayed into private practice. After 2 years of practice, I concluded this path was not meant for me. Before enrolling for the Postgraduate training, again, I had to make a choice

between becoming an Obstetrician and Gynaecologist, (who would do surgery, take care of newborns, and be an internist from time to time, while retaining his own unique skills) or becoming a General Surgeon. This was before I met Professor O.S. Ojo of the Obafemi Awolowo University Teaching Hospital Complex (OAUTHC), Ile-Ife. The interactions I had with him made me choose to be an Anatomical pathologist. This is a field that has made me the Doctors' doctor and Consultants' consultant. It was a divine choice as I have never had a cause to regret my choice.

**The Field of Pathology**

The word 'Pathology' has etymological roots in the ancient Greek language. *Pathos* means "suffering" and –*logia* means "study". In literal terms, Pathology is the "study of suffering" but let us put it in the right context. This field has evolved greatly and has come to define itself as a field of Medicine concerned with the scientific study of diseases; the causes (aetiology), the progression (pathogenesis) and their effects on the structures (morphology) and functions of human tissues. This has placed the Pathologist at a vantage point in the practice of Medicine today, in unraveling diagnoses, projecting prognosis and determining response to treatment. Pathology is the basis of everything in Medicine, hence my disposition towards this discipline. There are various means and tools available to the Pathologist in his/her quest to investigate the nature and extent of diseases. In a hospital-based setting, he does clinical work ranging from processing of specimens from the operating room, looking at the microscopic slides to make diagnoses. He does autopsies as well. We are the 'Sherlock Holmes' of

Medicine as one of my trainees would say. The practice of Pathology can be broadly divided into: Surgical Pathology, Autopsy Pathology, Forensic Pathology and Cytopathology.

The critical role of the Pathologist in the management of patients comes with a burden. As William Shakespeare wrote in the play, King Henry the Fourth, "uneasy lies the head that wears a crown". Pathologists spend the greater parts of their career studying morphology of known diseases, tricky or uncommon variations of known/common diseases and detecting new changes or evolving diseases. After all, these diseases do not "read our books" and the same disease that you thought you knew, may appear in ways that you do not recognize. To my trainees, when we are faced with difficult and puzzling cases, I would regularly say 'common things occur commonly' to highlight and instruct everyone to consider a well-known disease presenting (emerging) in a disguise before chasing after esoteric ones.

**Contributions to Knowledge**

Mr. Vice chancellor, Sir, in the course of my career as a teacher of Pathology and Consultant Anatomic Pathologist, I contributed modestly to existing knowledge in several aspects of Medicine/Pathology and these included Neoplasia, Infectious diseases, Autopsy practice, Medical education, Renal Pathology, Infertility and Cytopathology.

For the purpose of this Inaugural lecture, I have chosen to talk about my contributions in the field of Neoplasia (especially in the areas of Soft Tissues sarcoma (STS) and Gynaecological malignancies), Autopsy practice and Renal Pathology.

**Neoplasia**

In the literal sense, *Neoplasia* means new growth (*neo=new, plasia=growth).* In many pathology texts today, the word 'tumour' which means a mass or swelling and originally attributed to lesions arising from non-neoplastic processes, is now equated and used interchangeably with neoplasm. You will permit me to do the same, having established a good background so as not to further confuse my non-medical audience. Neoplasms can be further classified into benign i.e. tumours that remain localized at their origin (figures 1&2) and malignant i.e. the dangerous ones with propensity to spread to distant parts of the body leading to the death of the patient (figures 3&4). It is the latter that is colloquially referred to as 'cancer'.

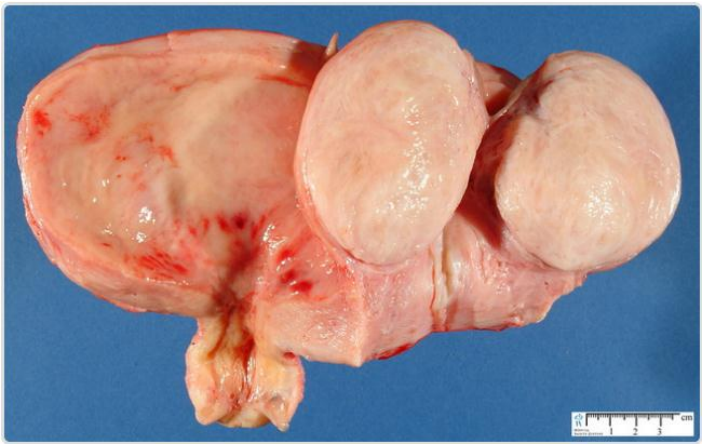


**Figure1**: Gross image of uterine leiomyoma showing well circumscribed nodules (source: Web Pathology)

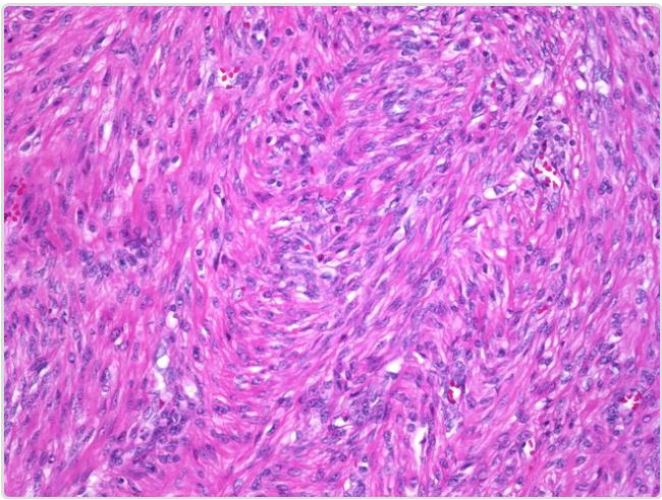


**Figure 2**: Microscopic image of uterine leiomyoma showing fascicles of uniform spindle shaped cells with blunt 'cigar shaped nuclei'. (Source: WebPathology)

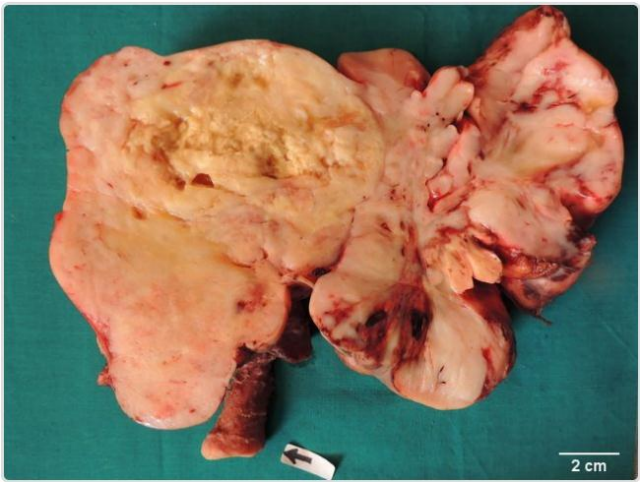



Figure 3: Gross image of Leiomyosarcoma showing irregular growth pattern, areas of haemorrhage and necrosis. (Source: Web Pathology)

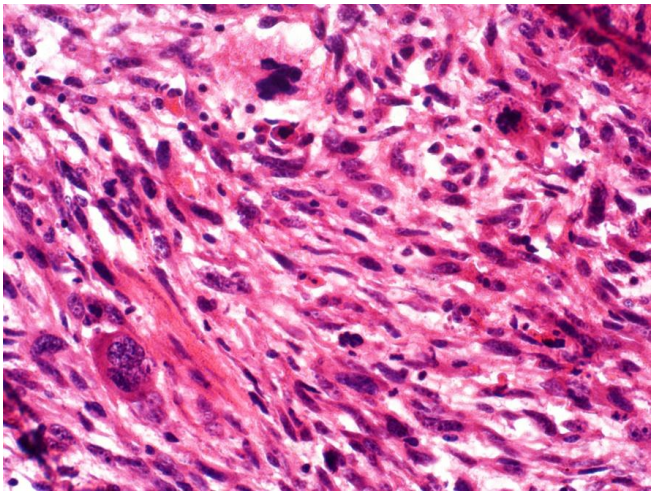
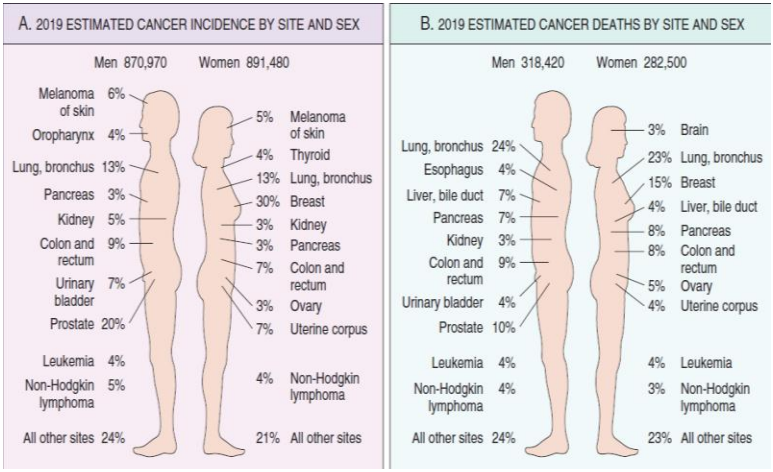


**Figure 4**: Microscopic image of leiomyoarcoma showing large pleomorphic spindle shaped cells with atypical mitoses. (Source: personal image)

What is cancer? As I earlier mentioned, cancer is a collective name mostly ascribed to all tumours that are malignant. The term itself is derived from the Latin word for ‘crab’ describing the tenacity with which malignant tumours attach to organs, many times unrelentingly till the sufferer succumbs to the disease. The emotional and physical sufferings associated with cancer, as well as the high mortality rate, are agonizing to the sufferers as well as their relations.

The most common cancers in males arise from the prostate, colon/rectum and the lungs while in the female, the most frequent arise from the breast, cervix and colon/rectum. Table 1




Cancer incidence (A) and mortality (B) by site and sex, excluding basal cell and squamous cell skin cancers and in situ carcinomas except urinary bladder (Robbins Pathologic Basis of Disease as modified from Siegel RL, Miller KD, Jemal A: Cancer statistics, 2017, CA Cancer J Clin 67: 7-30, 2017)

The numbers from cancer related deaths are estimated to be about 1 in 6 deaths worldwide; and about 9.5 million people were estimated to have died from cancer in 2018. (Robbins & Cotran, 2021)Cancers of the lung, female breast, prostate, and colon/rectum constitute more than 50% of cancer diagnoses and cancer deaths in the United States. With increasing world population and age, this is projected to rise to 13.2million deaths by 2030. This is why it is said that "Cancer is ubiquitous in human populations; the only certain way to avoid cancer is to not be born as to live is to incur the risk".

**Risk factors for Cancer**

Mr. Vice-Chancellor, Sir, one of the burning questions on every lip is this: what are the things that make one predisposed to cancerous growths? Genetic and environmental risk factors for cancers are being explored in the search for the understanding of these diseases. Current evidences suggests that exposure to environmental influences such as infectious agents, alcohol, cigarette smoke, diet and myriads of known and unknown environmental carcinogens (i.e. cancer causing substances) appear to be the dominant factor for most cancers. This famous statement from the acclaimed Textbook of Pathology, Robbins and Cotran *Pathologic Basis of Disease* summarizes and gives clue to the opening question "It appears that almost everything one does to earn a livelihood or for pleasure is fattening, immoral, illegal, or, even worse, carcinogenic!"

Age is an important risk factor for cancer. Most cancers occur in adults older than 55 years of age. Two factors may explain this-accumulation of many damaging permanent changes in the genetic make-up in aging cells and the decline in immune competence in older individuals. Sadly, children are not exempted! However, the types of cancers that are predominant in the 2 age groups are different.

**What Goes Wrong**

Carcinogenesis (process of cancer formation) occurs in a stepwise fashion and discrete complementary events must occur to convert a normal cell to a cancerous one. Microbial agents have been long established as direct aetiological agents in cancers; the most common are viruses.

Our publication on the role of viruses in cancer formation provided a lot insight into the subject (Buhari and Omotayo, 2006). Some of the viruses that have been firmly implicated in human cancers include Human Papilloma virus (HPV), Epstein Barr Virus (EBV), Hepatitis B Virus (HBV), Hepatitis C Virus (HCV), Human T-Lymphocyte Virus-1 (HTLV-1), Human Herpes Virus type 8 (HHV-8). A bacterium, Helicobacter pylori, is associated with gastric carcinoma and gastric lymphoma.

In those cancers with viral aetiology, the virus appears to be necessary but not sufficient for tumour development. Additional changes must accumulate to complement those mediated by viral functions, in order to disable the multiple regulatory pathways and checkpoints in normal cells and to allow a cell to be completely transformed.

These viruses contain many genes with the potentials to manipulate the host responses and mount strategies for evasion of detection and recognition by the immune system of the body. Some of the strategies include; -restricted expression of viral genes and proteins that makes the infected cells nearly invisible to the host e.g. EBV in B-cells -infection of sites that are relatively inaccessible to immune responses e.g. JC virus and Herpes simplex virus in the CNS; HPV in the epidermis -variations in viral antigens that allow escape from antibody and T-cell recognition e.g. HIV and influenza virus -down-regulation of expression of host MHC class I molecules in infected cells -inhibition of antigen processing and MHC class I-restricted presentation -infection of essential immune cells. Despite these elaborate viral evasion mechanisms, the immune system usually prevails. For example, the

prevalence of HPV may be as high as 50% among young women, but declines with age.

**Soft Tissue Sarcomas**

Soft tissues are the extra-skeletal tissues of the body that support, connect and surround other discrete anatomical structures. These tissues constitute over 50% of the body weight and include muscles, tendons as well as fibrous, adipose and synovial tissues.

Soft tissue sarcomas (STS) are malignant tumours that arise from the aforementioned tissues (extraembryonic mesoderm). Like most cancers, often, STS do not have any identifiable aetiology (cause). They are relatively rare in this part of the world, representing only 0.7% of adult malignancies. They are more frequent in children. They represent 6.5% of all cancers in children less than 15 years of age (Adigun, Rahman and Buhari, 2008) constituting the 5$^{th}$ leading cause of cancer death in this age group. They can occur anywhere in the body but mostly originate in the extremities, followed by the trunk, the retroperitoneum and the head and neck region. Head and neck sarcomas represented 11.6% of all sarcomas, with the highest incidence found in the 3$^{rd}$ decade of life and with no sex difference, as we found in our study (Buhari, Adigun and Rahman, 2009).The majority of STS in children are rhabdomyosarcomas (RMS) which mostly arise in the extremities (20%), head and neck region (37%) and the genitourinary region (25%). RMS has 4 major subtypes- embryonal, botryoid, alveolar and pleomorphic, with the embryonal subtype being the most frequent subtype in our study. (Adigun, Buhari and Rahman, 2008). Immunohistochemistry is most useful in making these

diagnoses as they are positive for Actin, Desmin, Myoglobin, S-100 protein, Vimentin and Myo-D.

The link between radiation and sarcoma (and cancer in general) has been recognized since the 1930s (Martland, 1931). External radiation therapy for cancer of the breast, cervix, ovary, testis or lymphatic system is a well-established factor for the emergence of STS. Other predisposing or associated factors include; -alterations in important cell regulatory genes, p53 and Rb genes. It is not surprising that inherited mutations of these genes in Li-Fraumeni syndrome and Hereditary Retinoblastoma respectively confer a substantial risk for sarcoma; and -chemical herbicides and dioxin Fibrosarcoma is the commonest form of STS (36.6%) in our environment(Buhari & Adigun, 2009). Dermatofibrosarcoma Protuberan (DFSP), another distinct STS, showed a prevalence of 7% in our study with a slight male predominance (Rahman, Adigun & Buhari, 2009). This lesion arises from the dermis and invades deeper subcutaneous tissues-fat, fascia, muscle and bone.

Despite the progress in the past few decades in the diagnosis and treatment of STS, the overall survival of patients with advanced or metastatic disease has largely remained the same. The diversity and biological behaviours of these lesions leave a lot of questions unanswered. However, a number of factors with prognostic significance have been identified. They include the size and grade of the tumour, histologic subtype, presence of metastases, site of origin and state of the surgical margins among many others. Generally, many STSs are difficult to diagnose and usually require expert skills, facilities and infrastructure for ancillary testing such as immunohistochemistry, electron

microscopy and advanced molecular diagnostics. Sadly, these are mostly lacking in our environment.

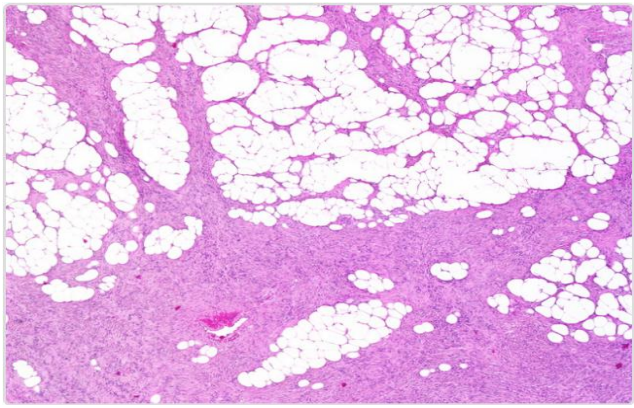


**Figure 5**: Microscopic image OF DFSP showing infiltration into the subcutaneous fat with characteristic 'honeycomb' appearance (source: WebPathology)

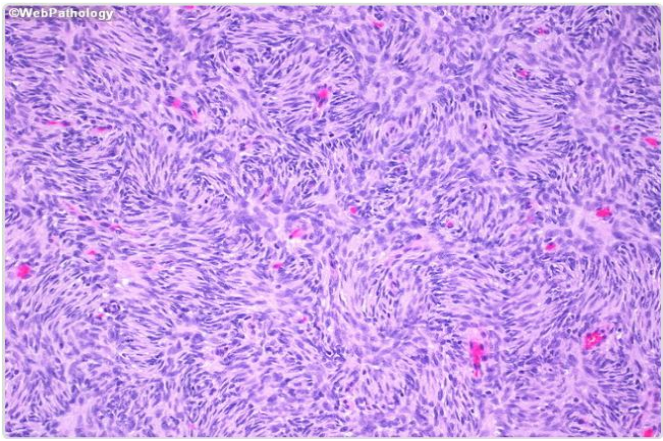



**Figure 6**: Higher magnification of DFSP showing short fascicles of the spindled tumour cells in a storiform growth pattern (source: Web Pathology)

**Gynaecologic cancers**

Carcinoma of the Cervix is a very common gynaecologic malignancy in Nigeria and other parts of Africa. It represents 6% of all cancers in women, with an estimated half a million new cases diagnosed yearly with about 234,000 deaths. About 80% of cases are found in developing countries (Ojwang et al, 1978). Cervical cancer is a slowly evolving disease that begins as a mild dysplasia and progresses over as many as 10 years to invasive carcinoma.

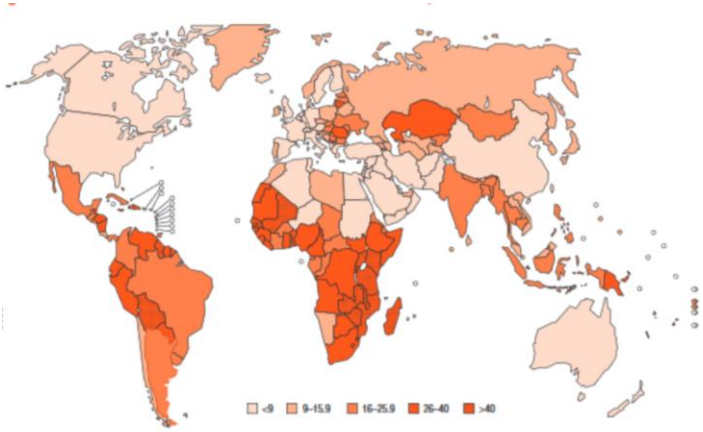



**Figure 9**: Estimated cervical cancer incidence worldwide (Source: International Agency for Research on Cancer (IARC), World Health Organization (WHO). GLOBOCAN 2012: estimated cancer incidence, mortality and prevalence worldwide in 2012: cancer fact sheets: cervical cancer. Lyon: IARC; 2014)

Most cervical cancers are caused by persistent infection with carcinogenic (high risk) subtypes of the Human papilloma Virus (HPV 16, 18, 31, 35, 39 etc.). About 90% are squamous cell carcinomas while the

remaining 10% are adenocarcinomas. They usually arise due to the progression of a precursor/precancerous lesion, especially high grade intraepithelial lesions (HSIL). Infection with these viral agents is not usually enough to cause cancers; most infections are cleared by the immune system of the body. However, some identified risk factors enhance persistent infections, hence predisposing to cervical cancer. They include sexual exposure at young age, multiple sexual partners, malnutrition, immunodeficiency states, cigarette smoking, family history etc. The lag between infection and progression to cancer provides an opportunity to screen, detect and treat this cancer. However, in this part of the world, awareness is low despite the relatively cheap cost of screening.

High risk HPVs cause cancer through the actions of the E6 and E7 viral oncogenes which bind, then degrade and inactivate the p53 and RB (retinoblastoma) genes respectively. The inactivation of these tumour suppressor genes leads to unregulated cell cycle with increased risk of oncogenic mutations.

The reported incidence of cancer of the cervix in Ilorin was 63.1% amongst all gynaecological malignancies (Ijaiya, Aboyeji and Buhari, 2004). Multiparity was the most common associated factor in our study and the earliest presenting symptom in most instances was irregular vaginal bleeding. In another study on the clinic-pathological presentation of primary cervical cancer seen in Ilorin, Nigeria, (Ijaiya, Buhari &Aboyeji, 2002), 62.3% of all histologically confirmed gynaecological cancers, were primary cancers of the cervix. The highest frequency was in the 40-49 year age group, with a steady rise in the incidence of the disease with increase in parity.

Ovarian cancers represented 5% of all cancers in women and 23% of gynaecological cancers in our study, second only to cervical cancer, with the epithelial type as the most common histological type (Buhari, Ijaiya and Aboyeji). One in 58 women will develop the disease with 47% of all deaths from cancer of the female genital tract occurring in women with ovarian cancer. The causative factors are poorly understood. However, old age, obesity and the use of replacement hormonal therapy after menopause increase the risk of having ovarian cancer. Hereditary factors clearly play a significant role. Combined oral contraceptive pills, pregnancy and breastfeeding have been shown to be protective.

The hallmark of this lethal disease is its insidious behaviour, often manifesting no distinct symptoms even in advanced stages.

**Clinical Presentation of Cancer and the role of the Pathologist in the Management of cases**

The clinical presentations of cancer vary widely from absent symptoms, hidden from sight as the army of malignant cells grow uncontrollably in numbers, to then forming lumps and masses in the tissue of origin. They go on to causing obstructions and pain as they enlarge further and even leading to bleeding when they breach the confines of their sites of origin. As they pursue an aggressive course, these horde of evil cells spread to distant sites as the tide turns against the patient.

The laboratory diagnosis of cancer entails taking samples(body fluids, and tissue biopsies) from an organ of interest and these are subjected to laboratory processing to enable the pathologist to better visualise cellular/tissue structure under the microscope- his favourite tool. The

Pathologist not only makes diagnosis of established cancers but is also at the forefront of examining samples submitted for screening purposes to detect precancerous lesions in his bid to prevent this debilitating disease. A foremost example is cervical cancer screening in which samples from the cervix-the lowermost part of the uterus is taken to detect lesions before they become cancerous.

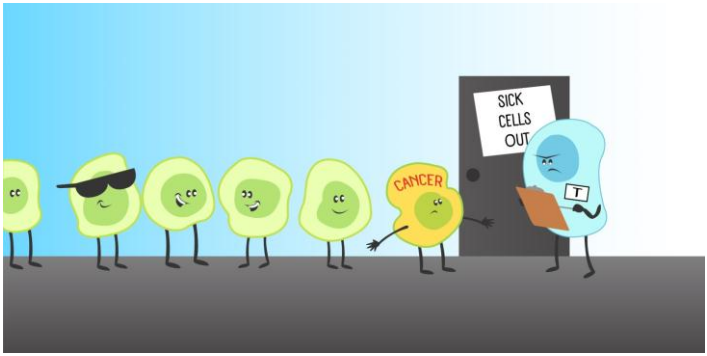



**Figure 7**: A cartoon depicting the role of immune surveillance in cancers (Source: Frontiers for young Minds https://kids.frontiersin.org/articles/10.3389/frym.2017.00040)

**Figure 8**: An illustration depicting pathologists in the laboratory working to make accurate diagnoses, a critical step in the management of patients (source: iStock photo https://www.istockphoto.com/de/grafiken/pathologe)

Another common example is screening for cancer of the colon/rectum whereby endoscopic procedures to visualise the intestines are done, samples are taken from any masses (polyps) sighted during this procedure and these are submitted for histopathological evaluation. The opinion of the Pathologist guides largely the Clinicians in the management of the patients, making the pathologist, the Doctors' doctor and the Consultants' consultant!

**Autopsy practice**

Autopsy pathology is the study of the cause and manner of death. It is also called post-mortem examination. The Latin saying *mortui vivo docent* meaning "the dead teaches the living" has held true from antiquity to present day. It literally means "to see for oneself". Before the discovery and wide adoption of the microscope, an instrument that revolutionised Laboratory medicine, most post-mortem findings were limited only to those seen during physical examination of diseased organs. Pathologists were thus mostly known for post-mortem examinations. Till date, whenever we pathologists are introduced, many erroneously assume all we do is cut up dead bodies.

Morgagni in 1761 stated that "those who have dissected or inspected many, have at least learned to doubt when the others, who are ignorant of Anatomy and do not take the trouble to attend to it, are in no doubt at all"

Autopsy pathology is beneficial to physicians in establishing diagnosis and determining cause of death, and also in providing data needed to ensure quality assurance in medical practice. It is an essential tool for furthering our understanding of disease and death. It has been used extensively for teaching pathological concepts, clinico-

pathologic correlation and gross and microscopic anatomy as well as understanding of disease entities.

Autopsies often uncover difficulties with clinical, radiological and in-vivo pathological diagnoses and unsuspected major clinical conditions are still found with outstanding regularities. It teaches us about medical fallibility and uncertainty. The descending curve of medicolegal autopsy rates has an inverse counterpart in the ascending curve of malpractice and the high frequency of litigation.

The value of autopsy to the family who has lost a loved one is often overlooked. Knowing the cause of death not only provides closure but identification of hereditary and contagious diseases through post-mortem examinations have saved many lives. Investigation of deaths contributes critical data to public health especially in the identification of environmental hazards and contagious illnesses. Medical scripts from the earliest documented medical practice and journals till date continue to show the contribution of autopsy practice to medical discoveries, clinical research and medical education of all physicians today. Coroner autopsies help to unravel causes of shady and suspicious deaths. A Coroner is a public officer whose duty is to inquire by an inquest into the cause of death when there is a reasonable suspicion the death may not be due to natural causes.

**Figure 10**: A picture of a woodcut depicting a 15th century autopsy (credits: Cordella Molloy/ Science Photo Library https://www.sciencephoto.com/media/299966/view/15th-century-autopsy)

Autopsy rate is very low in this environment, owing largely to the predominant Muslim population who have a compelling need to bury their dead on the day of death (Buhari, Ojo and Ajao, 2005). Our studies (Ojo and Buhari, 2004, Buhari, Ojo and Ajao, 2005) demonstrated a lot of prejudice amongst medical students and Clinicians against the practice of autopsy. Amongst the students, only 1% had observed any session in the past. Some of the reasons proffered by the students for an unwillingness to request for autopsy on their dead patients included; the need to respect the dead, religious belief (a majority believed all the great religions were against it, with almost all making it their sole perception of the practice), personal dislike for the

procedure as it was seen as inhuman, avoidance of litigation, perceived high cost of the procedure to the relations, possibility of indicting the doctor(s) that managed and a perceived unreliability of the report. The students, however, were willing to support a mandatory attendance of the procedure as a requisite for the award of the MBBS degree. Only about 40% of Clinician respondents frequently requested for autopsy. More than 2/3$^{rd}$ rarely attended these sessions, denying themselves the opportunity to learn from the sessions, even when they admitted the reports were valuable to medical practice.

In many centres across Nigeria, there is no policy prescribing the use of autopsy statistics in the main business of medical practices or as a means of assessing the performance of the hospital in the main business of healing the sick.

In recent times, the advancements in radiology (i.e. a branch of medicine concerned with detection of diseases tissue through light and sound waves beyond the sight and hearing of humans), and improvement in biopsy techniques have aided in the decline of non-forensic autopsy. Despite many changes in the way Medicine is practised, autopsy examinations remain a necessity and of great importance for purposes of education, justice and quality of care.

**Renal Pathology**

The human kidney is a highly specialized organ that is important to our survival. It is no wonder that it comes in pairs! Karen Blixen(1885–1962) who wrote *Seven Gothic Tales* using her pseudonym, Isak Dinesen described the awesome function of the kidneys when she said“What is man, when you come to think upon him, but a minutely set,

ingenious machine designed to turn, with infinite artfulness, the red wine of Shiraz into urine?!"

Each kidney, measuring just about one's fist, receives about a quarter of the total output from the heart. It filters about 1.2 litres of blood per minute, regulating the concentration of salt, water and many electrolytes while clearing waste products from it to be excreted into urine. Diseases of this hard working organ thus portend immediate danger to the afflicted.

In recent times, there has been an increasing incidence of kidney diseases. The kidney is put at risk of injuries from infections, smoking, and chronic diseases such as hypertension, diabetes and autoimmune diseases. Renal diseases lead to high morbidity and mortality along the line when all the renal reserves have been used up and the kidney breathes its last in what we call end stage renal disease. In order to keep these patients alive, the functions hitherto carried out by the kidneys for free now become allocated to dialysis machines at great cost, leading many patients to financial ruins. In our environment, it is no easy task getting a kidney donor not to talk of the cost of maintaining this donated kidney that the recipient body sees as foreign and it needs to be constantly placated by immunomodulatory drugs to prevent rejection of this precious organ.

There is a plethora of kidney diseases but with limited and generally unspecific clinical manifestations (i.e. different unrelated pathologies in the kidney may present in the same way, thus making diagnosis of specific kidney diseases a formidable one). They may present with reduced urine flow or inability to make urine at all with resultant retention of metabolic wastes and water. These often lead to swelling of the body. Also, kidney injury may present

with passing of protein or blood in the urine. The complications arising from all these is made manifest in all the body; most commonly leading to hypertension and damaging the heart, disorders of calcium metabolism, low blood counts, nerve disorders etc.

The tasks of recognizing the various morphological changes associated with a specific kidney disease and then correlating these with clinical manifestations to make a diagnosis rest heavily on the pathologist, again underscoring the importance of the pathologist in the management of these patients, highlighting his eminence as the Doctors' doctor and the Consultants' consultant! Prompt microscopic diagnosis guides the clinicians not only on what management regimen to follow but also in measuring the response to treatment.

The analysis of biopsy specimens by a pathologist allows a precise diagnosis in the majority of cases. The diagnosis needs to be correlated with the relevant clinical information in consultation with the clinicians in a multidisciplinary approach in order to yield an optimal clinicopathological diagnosis.

The histological lesions described by the pathologist significantly contribute to the modality of treatment.

The primary function of the renal pathologist is to interpret the biopsy tissue in the clinical context, taking laboratory test results into account in the final interpretation.

He also ensures that the specimen procured is adequate and representative and assures appropriate processing. He triages the biopsy material to optimally utilize it for testing for light, immunofluorescence and electron microscopy. He also interacts with clinicians to

communicate critical information which ensures that patients receive optimal care.

His responsibilities can be summarized as follows;

- Clinical services including examination of the biopsy specimen to make a diagnosis and support of the clinical departments of nephrology;
- Academic and educational activities including teaching kidney pathology to resident doctors and medical students; and
- Research activities, including extensive collaboration with a number of other departments

At the University of Ilorin Teaching Hospital, Renal Care was identified as a cardinal management goal. Prof. A. S. Kuranga, as Chief Medical Director saddled Dr (Sir) Ademola Aderibigbe with the responsibility of putting together a team to actualize this. Membership was drawn from all facets of the hospital operations, and I was the Renal Pathologist. I received trainings from home and abroad as a Renal Pathologist, spanning the continents of Africa, Europe and North America. The highlight of my recognition in this regard was my invitation on two occasions to participate in the $5^{th}$ and $8^{th}$European renal Pathology congresses in 2011 and 2014 respectively. Under the leadership of Prof A. W. O. Olatinwo as the Chief Medical Director, I was given the duty of heading a Task Team that carried out the very first Renal Transplantation in the whole of the North central region of Nigeria.

The Ilorin Renal Study Group carried out renal disease screening campaign as part of the activities marking the 2007 World Kidney Day with a view to forming a template for Community Health Promotion Programme. Morbidities such as obesity, hypertension, proteinuria,

haematuria, pyuria and crystalluria were detected using simple, accessible and affordable tools (Adedoyin et al, 2008).Obesity and hypertension were uncommon which was not surprising because the study area was a rural population. Proteinuria incidence was high and comparable to those found in urban areas. A far-reaching conclusion could not be drawn from the study due to its many limitations but it was meant to draw attention to the need for periodic renal screening in our communities, to help in planning intervention strategies in the early asymptomatic stages of CKD so as to reduce the prevalence of end-stage renal disease. In another commissioned but yet unpublished work, we reviewed all the renal biopsies examined at the Department of Pathology of the University of Ilorin Teaching Hospital, Ilorin from 2010 to date. Two-third of the patients were children below the age of 18, reflecting the tremendous efforts of Prof OT Adedoyin in this regard. The M:F ratio was 2:1.A tenth of these were reported as inadequate for histological appraisal, due largely to poor technique and instrumentation. A third showed histological changes that were highly suggestive of Minimal Change Disease. The "suggestive" in the diagnosis came from the near impossibility of making a definitive diagnosis of this from Light microscopy alone, and this is the only tool available to us at our centre despite the impressive advances in Clinical Nephrology. Of the 2 other tools that could be used (Immunoflourescence and Electron microscopy), only Immunoflourescence microscopy is available in a few other centres in Nigeria, with no centre boasting of an Electron microscope in Nigeria, as of today. In Renal pathology, there are diagnoses you cannot make without an electron microscope.

It has been difficult to build on the modest strides we made despite the vast array of human resources at our disposal as a centre. This has also not been helped by the sophistication of the equipment and tools necessary for a meaningful renal pathology practice. The desire is to see the whole programme of Renal Transplantation reactivated with even better outcome than we achieved before and with admirable regularity, too.

**Community Service**

**University of Ilorin Teaching Hospital, Ilorin**

I started my Residency training at the University of Ilorin Teaching Hospital, Ilorin on the 1st of October, 1996. I was appointed a Consultant Pathologist in November of 2002. I was a member of various hospital committees, representing the Chief Medical Director on a number of Boards. I was also privileged to head the Department on at least 2 occasions for a cumulative period of almost a decade. I was appointed the Deputy Chairman, Medical Advisory Committee in charge of Training and Industrial Relations by Prof A. W. O. Olatinwo. In 2015, I was elected the Chairman, Medical Advisory Committee and in that capacity, the Director of Clinical Affairs and Training. I got re-elected to the post in 2017 following a satisfactory performance. In March 2018, I was appointed as the Acting Chief Medical Director, a position I held till18th of June, 2018 following the appointment of a substantive Chief Medical Director.

**University of Ilorin**

I joined the services of the University of Ilorin as a Lecturer 1 in October of 2002 and rose to the exalted rank of a Professor of Pathology in January of 2012. I was a

member of several University committees, the most notable being a member of the Committee that birthed the now popular Computer-Based Test (CBT). At various times, I was also Head of the Department of Pathology. In July of 2018, I was elected by the Senate of the University of Ilorin as a Deputy Vice-Chancellor, Research, Technology, and Innovation and I served in that position July 2022 following a reelection in October 2020. I have been the Chairman of the Steering committee of the highly acclaimed multimillion Naira Unilorin GgMAX poultry farm established under the Central Bank of Nigeria-driven Tertiary Institution Poultry Revival Scheme (TIPRES).

**Community as a whole**

I started playing squash racket as a recreational sport in the year 2000. Till I got appointed a Deputy Vice-Chancellor, I was able to play 6 days a week unless out of town. My steadfastness and dedication got me appointed first as a Deputy Chairman and later as the Chairman of the Kwara State Squash Association from 2012 to date.

I also took up cycling as a hobby and at some point, I became the sole sponsor of the Kwara state team till the burden became too much for me to carry alone.

**Associations and Unions**

In the Association of Resident Doctors, I had the privilege of serving as the Chairman Ventures Committee, Vice-President and later President of the Association of the local branch at UITH, Ilorin. In the 2001-2002 Executive year, I had the rare privilege of leading the National Association of Resident Doctors (NARD) of Nigeria, as its National President. I also had the opportunity of serving the Medical and Dental Consultants Association of Nigeria

(MDCAN), first as the Vice-Chairman and later as the Chairman of the University of Ilorin Teaching Hospital, Ilorin chapter.

In the Nigerian Medical Association, I was a national Deputy Editor, National Chairman, Committee on Resident Doctors, Chairman, Kwara state Continuing Medical Education(CME)/Continuing Professional Development (CPD) Committee, Chairman, Kwara state NMA, National Chairman on CME/CPD, at various points in time.

**Conclusion**

The role of the Pathologist is crucial in the care of the patient. He helps the primary physician to establish a diagnosis and his counsels are helpful in charting the best course of treatment for the patient. The role of the pathologist is that of Doctors' doctor because we explain to the clinicians what the diseases are. The Pathologist is an expert in his own right but is also a communicator, collaborator, manager, health advocate, scholar, teacher and researcher. The field of Pathology is changing especially in the areas of molecular genetics and genomics, paving the way for targeted therapy and personalized prognosis.

**Recommendations**

1. The right tools must be made available for General Pathological services but especially, for renal histopathological services, given the magnitude of the challenges posed by kidney diseases and the increasing sophistication in the services offered by Clinical Medicine.
2. Government should create special centres for the management of cancers and kidney disorders even

if it requires establishing these on geopolitical regional basis.

3. There is a need for institutions to generate their own Autopsy policies and for various State governments to review the old Coroner law. The old Coroner law was enacted in 1944 and amended in 1958. Since then, only few States of the Federation have proposed and passed amendments to these laws, principally Lagos state in 2007. It is desirable for other States to amend this law to reflect modern realities and scenarios. In the same veins, hospitals should have well spelt out autopsy policies, in order to derive the maximum benefits from the procedure.
4. Large scale investment in creating awareness on the various cancer screening programmes cannot be overemphasized considering the cancer burden and its attendant effects on the individual, families and the Nation. Related to this is making affordable the vaccines for the few vaccine-preventable cancers. No investment in this regard is wasted.
5. Government should devise a mean of retaining our best hands beyond the statutory retirement age without necessarily putting the heavy burden on the institution. In my sojourn in Anatomical pathology, I have come across the finest scientists on at least 3 continents. I have seen a difference in the way we treat our old hands and the way they are greatly appreciated and coveted for their uncommon skills in other places. This is what we need to imbibe, to protect the present and safeguard the future.

**Acknowledgement**

Alhiamdulilahi robi alamina. Glory to Allah, the Beneficent, the Merciful. Which of His favours will I deny? None. He is the Master of the whole Universe. It is He who bestows His favours as He deems fit and who has made me a beneficiary of good fortunes beyond my own fair share. In return, I have seized every opportunity He gave me to be more worthy in His eyes by worshiping Him in my acts and actions, particularly in the way I use the positions He elevated me to and in the use of the resources He granted me.

To my parents, I have only gratitude, for bringing me to this world, for their care and love and for giving me all they had, within their means. My late father, Alhaji Ahmad Buari was an epitome of humility and kindness and his love for me was unconditional and immense. May Allah continue to grant him Aljannah firdaous. My mother, Alhaja Sikirat Buari is the very definition of "Iyarere". May Allah grant you more of the good health He has gifted you and long life to enable you enjoy even longer the fruits of your labour. I appreciate all my mothers in the extended Olomu Buari family for their love and care in different stages of my life.

My late uncles, Alhaji Abdulkadir Buari Oba, Malam Yesufu Buari and Alhaji Salaudeen Ajide Buari, Oba all played great roles in bringing me up. Importantly, they made it difficult for outsiders to know whose biological child was whose and as large as the extended family was, we had a common pot and wherever you found yourself was where you laid your head for the night. May the Almighty continue to grant them Aljannah firdaous.

I must single out another uncle for a special praise. I lost my biological father in my final year in the Medical

school. The responsibility of seeing me through school and in guiding me in the years that followed fell on HRM, Oba Mohammed Yakubu Adebayo Buari, Ilufemiloye II, the Olomu of Omupo. Those years were the most important of my life, yet. He was there for me in every aspects and he showed uncommon love and care. I remain eternally grateful to you and the Olori, Alhaja Sidikat Olayinka Buari who also accepted me wholeheartedly and was unwavering in providing support to me in those years and beyond.

My praises and adoration also go to another uncle, Prince Adebisi Buari for his role in my upbringing.

No one can understand the glue that binds us together as cousins but my cousins have remained the greatest influence on my life. Prince Abdulsalam Olayinka Buari is my oldest cousin and our leader. Down the line, and along the different branches, I recognize all my cousins and I thank you for the wonderful memories of our growing up together and the fellowship and bond we enjoy till this day. Special mentions go to Alhaji Yunus Olanrewaju Buari (Baba Ibeji), Pharm Sikiru Bolaji Buari, Lawyer Mustapha Buari, Lawyer Hakeem Kareem, Wasiu Bello, Taofeek Bello, Mufutau Bello, Bashir Bello, and Dr (Mrs) Kudirat Bolalnle Saliu (my "treasurer" in my 100level), Mrs Munirat Ologun and Mrs Mojisola Ajayi, to mention but a few.

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I appreciate all my teachers in the University of Ilorin. Some of them are still around today-Prof A. B. O. Omotoso, Prof. W. B. R. Johnson. Prof. A. B. Okesina, Prof D. Nzeh and Prof. (Mrs) Olorundare. My classmates in the University, the ILUMSA '91 class, were worthy class and course mates and we have forged relationships that have endured till date.

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Prof. Albert S. Anjorin received me wholeheartedly when I joined the Department of Pathology of the University of Ilorin Teaching Hospital in October of 1996 as a trainee. Along with Prof E. A. O. Afolayan and Dr. K. A. Adeniji, he taught me all aspects of Pathology and was a father figure all through. From them as well as the Consultants I met in the course of my attachments in several other places in Nigeria and abroad, I came to

appreciate the finer points of the specialty I chose and I cannot thank them enough.

Prof. E. J. C. Nwana was my first Head of Department as a Lecturer/Consultant. He entrusted me with massive responsibilities and has the distinction of being my first trainer in Administration. Mr T. A. Tijani remains the finest scientist I have encountered in the course of my sojourn in pathology and this he proved at home and abroad. If only the system could accommodate such fine skills, till they can no longer go on.

I appreciate the past and current leadership of Association of Resident Doctors of Nigeria, University of Ilorin branch (ARD-UITH), National Association of Resident Doctors of Nigeria (NARD), Medical and Dental Consultants Association of Nigeria (MDCAN), UITH, Ilorin Chapter and the Nigerian Medical Association, the Kwara State Chapter and the National body. I gained invaluable experience in my membership of these bodies, some of which I had the privilege of leading, either at the local or national level and I can never trade these for any other thing in this world.

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The Adua family gave me their daughter to marry. My father-in-law, Dr. Idris Omo-Adua and my mother-in-law, Alhaja Mariam Omo-Adua are the best anyone could wish for. They accepted me wholeheartedly and made me

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If there is anyone or group I have left out, accept my unreserved apology. Time and space are the constraints here and I appreciate you all.

Permit me to end this Lecture by quoting this Poem written by John Paul Moore, titled Drinking from My Saucer.

I have never made a fortune
And I will never make one now
But it really doesn't matter
Because I am happy anyhow.
As I go along my journey
I thank God for His blessings, and the mercies He has bestowed
I am reaping better than I sowed

I am drinking from my saucer
Because my cup has overflowed
I don’t have a lot of riches,
And sometimes the going is tough
But with kin and friends to love me
I think I am rich enough
I thank God for the blessings
That His mercy has bestowed
I am drinking from my saucer
Because my cup has overflowed
He gives me strength and courage
When the way grows steep and rough
I will not ask for other blessings for
I am already blessed enough
May I never be too bust
To help others bear their loads
Then we will be drinking from the saucer
When our cups have overflowed
Thank you for listening!!!

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