UNIVERSITY OF PORT HARCOURT

BONE MENDING: ORTHODOXY CHALLENGED BY TRADITION

An Inaugural Lecture

By

PROFESSOR ANIEKAN UDOH EKERE

MB.BS (Lagos), FMCS (orth.), FWACS, FICS, FAGP.
Department of Surgery, Faculty of Clinical Sciences,
College of Health Sciences.

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Finally I thank all my patients without whom there will be no research. Thank you all.

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THE HONOUR ROLL

Mr. Vice Chancellor, Sir,

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Dean, School of Graduate Studies,

Dean, Faculty of Clinical Sciences,

Distinguished Professors and Scholars,

Directors of Institutes and Units,

Heads of Departments,

Other Academic and Administrative Staff,

Students,

Ladies and Gentlemen.

1.0. INTRODUCTION

Mr. Vice Chancellor, Sir, the emphasis of my research and work in the academic field in over 20 years have focused on **1.Musculoskeletal Trauma especially in the area of road traffic trauma as well as trauma related deaths and 2.Some challenging Chronic debilitating Orthopaedic illnesses**.

2.0 MY SPECIALTY

Sir, the word **ORTHOPAEDICS** is coined from two Greek words; "orthos" meaning straight and "paedion" meaning a child. So the original science of my specialty was driven by the undertone of straightening deformed children made crooked by disease. This word was coined by Nicolas Andry,a professor of medicine of the University of Paris in 1741.Things and thinking have since changed and musculoskeletal trauma or accidental injuries have become a major aspect of Orthopaedic practice. Our main goal is to preserve, reconstruct or salvage limbs crippled by disease or mangled by trauma. Unfortunately, the Orthopaedic Surgeon is perceived by society as a doctor that amputates limbs and there is a lot of negative propaganda that orthodox management of fractures and other bone ailments is by amputation. The price of this particular notion is very high as I will try to discuss it in the course of this lecture.

The World Health Organization (WHO) defines accidents as "unpremeditated events resulting in recognizable injuries," but stressed that they are not chance occurrences. Simpson in 1962, opined that a complex of circumstances at the time of accidents determine their occurrence, and these identifiable events increase or decrease their probability .WHO classifies accidents both as "epidemic" and "endemic" illnesses, while Asogwa claims that they are "endemic diseases with epidemic dimensions"(Asogwa ,1978).

So we treat bones, joints, muscles, tendons and nerves in **BONE MENDING** and the conditions we see fall into seven pairs:

1. Congenital and developmental abnormalities
2. Infection and inflammation
3. Arthritis and rheumatic disorders
4. Metabolic and endocrine disorders
5. Tumours and lesions that mimic them
6. Sensory disturbance and muscle weakness
7. Injury and mechanical derangement.

(Solomon, Warwick & Nayagam, 2001)

Fig 1: Cerebral Palsy Patient

Fig 2: AV Malformation of the lower limb

3.0 ORTHOPAEDIC SURGEON AND TRADITIONAL BONE SETTER

The orthodox surgeon is trained according to laid down educational standards globally. The curriculum of training is well streamlined and open for replication, and Pharmaceutical drugs and scientifically developed instruments and equipments are used in the practice. Experience, interactions and regular surgical audit improve practice and consequently results.

Traditional medical practice is an ancient art involving Priest Physicians as dispensers, shrouding it in mysteries. Traditional bone setters (TBS) adopt their skills through apprenticeship mostly inherited as family traditions. They are not subjected to

the rigors of formal education; this makes their practice dependent on experience and "spiritual intuition". Their most important tools include the traditional bamboo splint, herbal concoctions and incantations. In Nigeria their practice is not open for verification (Ekere, 2005).

The traditional bone setter appeals a lot to our local values, making their patronage high cutting across educational and social groupings. But the lack of scientific knowledge and methods exposes their clients to several avoidable complications.

For now these two groups (the orthopaedic surgeons and the TBS) are not very complimentary. A significant amount of the musculoskeletal injuries and its complications treated by the orthodox surgeons come from Traditional bone setters interventions.

4.0 THE HUMAN BONE

Mr Vice Chancellor, Sir, the orthopaedic surgeon is commonly referred to as "The Bone Doctor". His work also extends to other tissues because the bone is wrapped by a soft tissue envelop. Whatever affects the bone touches the soft tissue envelop and vice versa. It will therefore be necessary to make some comments based on established facts about human bones.

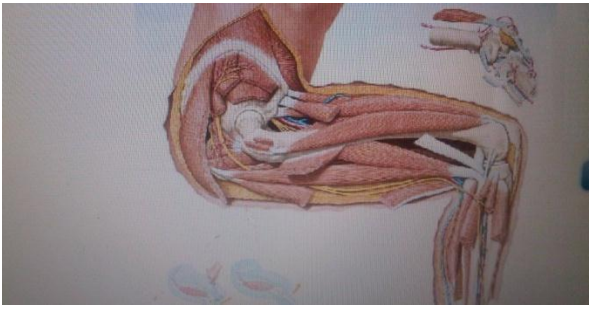

Fig. 3: Bone Wrapped in Soft Tissues

4a. ***Bone composition.***

Bone is made up of a collagenous matrix impregnated by mineral salts and populated by cells. This matrix is mainly of type 1 collagen lying in a mucopolysaccharide ground substance. Other non collagenous proteins in small amounts are found. These include proteoglycans and bone specific proteins including osteonectin and osteocalcin. Unmineralised matrix, called osteoid, is found where active new bone formation is taking place.

About half of bone volume is made up of calcium and phosphates in the form crystalline hydroxyapatite laid in osteoid at the calcification front. In the mature bone, calcium and phosphorus are firmly bound to collagen, making demineriliśation only possible by resorption of the entire matrix.

Bone cells are made up of **osteoblasts** which are found on the surfaces of trabeculae and Harvesian canals. They are rich in alkaline phosphatase and are responsible for the production of type 1 collagen and other bone proteins and also for mineralization of bone matrix. The **osteocytes** regarded as spent osteoblasts lie in bony lacunae and communicate with each other through long cytoplasmic processes. Their function is obscure. The **osteoclasts**, large multinucleated cells from monocyte precursors, help in bone resorption.

4b. ***Bone structure***

Immature bone, found during the early stages of bone healing, possesses a haphazard arrangement of collagen fibres and cells, and is only a temporary bridge. Mature bone is well organized, with parallel layers of collagen sheaths or laminae and cells lying between them. They are called lamellar bone.

Mature bone is of two types: **compact (cortical) bone and cancellous bone**.

Compact bone is dense and though found on the surfaces of all bones, is mainly found where support is of absolute importance like tubular bones and near joint surfaces. It contains a fine network of Harvesian systems with a central canal containing blood vessels, lymphatics and nerves. The cancellous bones have a honey comb arrangement making up the interior meshwork of all bones. The areas of thickness are mainly found along stress trajectories where compressive stress exists. The open spaces contain blood vessels and marrow. It is more porous than cortical bone, constituting only a quarter of bone mass but two thirds of bone surface.

The basic bone structure is the same, with compact bone outside and cancellous (spongy) bone inside. The outer bone surface is lined with periosteum, a fibrocellular sheath with osteogenic potential, and the inner bone layer lined with endosteum. The pattern is maintained by a connecting network of Harvesian systems with inner and outer links via Volkmann's canals. There is a rich anastomosis of vascular channels and blood flow is from inside out (centrifugal). Compromise of the vascular arrangement can adequately be obviated by periosteal blood supply.

Fig. 4: Bone Tissue Magnification

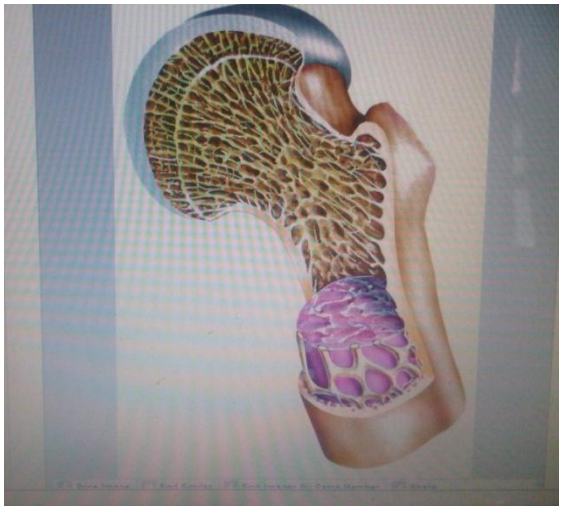

Fig. 5: Cut Section of Bone

4c. ***Bone modelling and remodelling***

Bone is one tissue that grows throughout life. New bone can either be formed by ossification of proliferating cartilage (endochondral ossification) or direct ossification of connective tissue (membranous ossification). The process of modeling and remodeling is a lifelong project and is dependent on prevailing needs modulated by osteoblastic and osteoclastic activities.

The annual turnover rate of this process in a cortical bone is 4% but is 25% in trabecular bone. Usual osteoclastic activity, when stimulated, lasts three weeks. A week or two after, osteoblastic bone formation and mineralization continues for three months. The processes are closely coupled , each stage following the next stage in a cycle.

4d. ***Regulation of bone turnover and mineral exchange***

Bone stores over 98% of the body's Calcium and 85% of Phosphorus, the balance being available as rapidly exchangeable fraction partly available in the extracellular fluid (ECF). The control is balanced by absorption through the intestines and excretion via the kidneys. Calcium control is very strict, as persistent deficiency in ECF will pool from bone sources. Many local and systemic factors control Calcium balance.

Calcium helps in normal cell function, nerve conduction and muscle contraction. Low levels can cause tetany while high levels can block neuromuscular transmission. Normal levels in plasma and ECF is 2.2-6 mmol/L (8.8-10.4 mg/dl), and the daily need is 20-25 mmol (800-1000 mg) except in pregnancy and lactation when needs can reach 1500 mg. Calcium absorption is via the gut, depends on a suitable calcium/phosphorus ratio, and is mediated by Vitamin D metabolites. Phosphates (in soft drinks), oxalates (in tea and

coffee), phytates (in chapatti flour), fats, drugs (like corticosteroids), and malabsorption disorders all affect calcium absorption. Compensatory flux in intestinal absorption, renal excretion and bone remodeling are controlled by parathyroid hormone (PTH) and Vitamin D metabolites.

Vitamin D is important in calcium metabolism through its active ingredient 1, 25 dihydrocholecalciferol (Calcitrol) which is produced by several activities affecting the skin, liver and kidneys. Many hormones are involved. Its main function is calcium absorption and transport. With PTH it controls bone remodeling. Oestrogens help in calcium absorption and oppose PTH action. Thus, ovarian failure, as in menopause, can lead to osteoporosis. Several other minerals and hormones, local and environmental factors are all important in maintaining bone stock and in providing active ingredients for normal cell functions.

4e. *Bone changes with age*.

There is rapid bone growth in childhood and bone mass increases at a rate of 3% per year between puberty and age 30 years. This is controlled by genetic, hormonal, dietary and environmental factors. After age 30 years, bone mass dimunition is 0.3% per year in men and 0.5% in females. After menopause, for the next 10 years bone mass loss increases to 3% per year and reduces to 0.5% again at age 75 years. Men suffer the same losses except that it comes 15-20 years later than in women. Somehow black women hold on to their bone mass better than whites, as 30% of white women will develop postmenopausal osteoporosis.

4f. *Bone functions*

The skeleton serves six major functions;

1. Support. The skeleton supports the human frame and maintains its shape. The pelvis and its ligaments provide

a floor for pelvic structures. Without the ribs, costal cartilages and intercostals muscles the heart would have collapsed.

2. Movements. The bones articulating at joints with the neuromuscular support helps in mobility. The ball and socket joints provide the greatest range of motion.
3. Storage. Bone matrix stores calcium and is involved in its metabolism. Bone marrow stores iron in ferritin useful in iron metabolism. Bone is not entirely calcium but a mixture of chondroitin sulphate and hydroxyapatite, the later constituting 70% of bone.
4. Blood cell production. Bone is the centre for blood production in the yellow bone marrow at the centre of the bone.
5. Protection. The skull protects the brain, eyes, middle ear. The ribs, sternum and vertebra protect the heart, lungs and great vessels. The vertebra protects the spinal cord while the ilium and spine protect the digestive and urogenital systems and the hips.
6. Endocrine function. Bone secretes a hormone osteocalcin which is useful in glucose and fat metabolism.

It is important to note that there are some changes in bone arrangement between the sexes especially in the pelvis. The female pelvis is roomier to perform its peculiar function of child birth. (Solomon, Warwick & Natayam, 2001; Free Wikipedia, 2011).

5. TRAUMA RESEARCH

Sir, I will like to summarize some of my works in trauma as it relates to Orthopaedics including road trauma, gunshot injuries, domestic accidents, fracture treatment and trauma deaths. My interest in road trauma started in 1988 when I was to do my dissertation for the final fellowship of The National

Postgraduate College of Surgeons of Nigeria. Motorcycle road trauma was an easy research topic as the load was high. The dissertation was one of the first on this topic in the college, and though not a ground breaking research but it was a bold step into motorcycle road trauma research. That was what changed my specialty focus from Gastrointestinal Surgery to Orthopaedics and Trauma.

5a. Road Trauma

Automobile related road accidents are a major public health concern in Africa and other developing economies (Eke, 2001). They constitute the bulk of trauma cases worldwide (Eke, 2001; Asogwa, 1978; Demeter and Horne, 1987). In 1973, Jaja asserted that it contributed 30% of injuries and 20% of hospital admissions in Africa. In 1971 it claimed more lives than the cholera epidemic of that year (Asogwa, 1978). In 2004, road accidents killed 1.2 million people and injured 50 million worldwide. It is the leading cause of disability and death in the 10-19 years age bracket .About 260,000 children die per year and 10 million are injured. It is the sixth leading preventable cause of death in USA (45,800 died and 2.4 million people were injured in 2005) (Free Wikipedia). In Nigeria, the Federal Road Safety reports that about 50,000-100,000 people die from road trauma per year and that 20-40 people die daily in their prime of life on Nigerian Roads (Udosen, 2009).

Mr Vice Chancellor, Sir, if the number of carnages on our roads happened in air travels, no human will fly in an aeroplane. Road traffic accidents are on the decrease in developing economies, while unfortunately the accidents are on the increase in underdeveloped regions like ours due to poverty, illiteracy and bad governance (Eke, 2001; Asogwa,1978; Zettas, Pritz and Hassler, 1977). The

epidemiology of these accidents can be analyzed using the causal groups; roads (environment), vehicles (agents) and users (hosts) contributions. The young active male is most at risk, and this constitutes an economic blow on the society (Eke, 2001; Asogwa, 1978). The motorcycle is a common cause of pedestrian injuries in the United Kingdom and a significant amount of paediatric pedestrians are affected (Bothwell, 1962; Adeloye & Odeku, 1970; Asogwa, 1984). Children's involvement is worsened by child labour (hawking), poor risk appreciation, ignorance and none enforcement of child right laws (Eke, 2001; Adeloye & Odeku; 1970). The outcome of these accidents, depend on the severity of injury, time lapse before definitive treatment and quality of care (Demeter and Horne, 1987).

Our hospital based studies showed that road traffic accidents constituted the highest cause of trauma and that the motorcycle was the commonest cause of road trauma in Port Harcourt (Seleye-Fubara & **Ekere**,2000;2003; **Ekere**,2003;**Ekere** & Ibeanusi,2003;Ibeanusi & **Ekere**,2007). Males were mostly affected with 20-39 year age group most at risk. All the cyclists were males (**Ekere**, 2002; **Ekere** & Etuk, 2002; **Ekere** & Ibeanusi, 2003), thus making it a malady of the economic live wire of the society. Other observations from the studies above included that most of these accidents occur on Fridays and Saturdays, during the rains and festive periods, and commoner in the Diobu areas. Vehicle occupants (passengers) were more at risk of being injured or dying than the drivers, just as the pillion rider (motorcycle passenger) and the cyclist. Drivers are fewer and are the more likely occupants to wear seat belts, while the cyclists are better balanced holding the cycle handles, they also sight the threat earlier, thereby making necessary adjustments.

The pedestrian was mostly injured by cars. Most of the injuries affected the extremities and were sustained by direct impact. A significant proportion of the victims were children injured during the afternoon-evening time frame, and these accidents occurred more during the wet season in the highly populated and infrastructurally challenged areas of Diobu and other Obio Akpor areas **(Ekere**, 2002; Seleye-Fubara & **Ekere**, 2003, Etebu & **Ekere**, 2004).

Most of those injured arrived at the hospital within six hours of the event and a significant proportion of the late arrivals (a week and over) had consulted the traditional bone setter (**Ekere**, 2002; 2003**; Ekere** & Etuk, 2002; **Ekere** & Ibeanusi, 2003). The studies also raised serious concerns about the patients that signed out of hospital against medical advice, some of them at very critical states. Many of these patients must have gone to consult with the traditional bone setter. Sir, let me share with you a particular event of an accident victim brought with gangrene of the lower extremity. He refused to have amputation and with his expatriate boss was encouraged to come for treatment at Mile 4, Diobu, Port Harcourt. At arrival there, he was locked out of the bone setters "clinic" for several hours. The "consultant" eventually saw him and the verdict was that he came too late, despite his previous assurances. They came back after much pleading with a worse clinical state. He eventually had an amputation and the patient is likely still alive today. Many never came back alive.

We suggested more emphasis on enforcement of legislation regarding safety on our roads. Education and people oriented government programmes were encouraged. Minimum educational attainment of junior secondary certificate attempt was recommended for cyclists; at least they should be able to

read road signs. Child right laws were encouraged to protect our juvenile victims.

Despite our constraints in this environment most of our treatment outcome were adjudged fair to good in all our studies (**Ekere**, 2002; 2003; **Ekere** & Ibeanusi, 2003). In our research efforts in Port Harcourt, we have been able to suggest some new modalities in trauma management while putting more emphasis on some age long practices.

We have suggested the combination of a Skin traction kit and cervical collar as an alternative neck traction system for neck trauma (**Ekere**, 2009).It was named "Skin traction kit cervical collar hybrid appliance" and we have even used it in management of severe cervical spondylosis (arthritis of the neck line).

Fig. 6: Skin Traction Cervical Collar Hybrid Appliance

We also proposed that the outer pillar of the ankle joint (lateral malleolus) can be fused to the lower tibia in situations of bone loss affecting the fibula above the ankle joint (**Ekere**, 2005). Alternative procedures include fusing the ankle joint or bone lengthening procedures. So our proposal avoided time wasting and expensive reconstructive procedures, which are not favourable in a chronically depressed economy like ours.

Fig. 7: End result of a gunshot leg of the ankle

A report on the emergency salvage of mangled feet with compromised blood supply, revealed that passage of two Steinmann's pins from the sole of the feet into the tibia with cast augmentation, stabilized the feet enough to prevent vascular compromise and gangrene (**Ekere**, 2003). Several badly traumatized feet benefitted and are still benefitting from this simple emergency procedure.

Another report addressed the blood transfusion controversy as it affects Jehovah witnesses. We found that building their blood with erythropoietin and/or iron dextran to above 14gms/dl made it possible to do major hip surgeries without transfusion (**Ekere** & Mato 2003). Dilutional anaesthetic techniques were used during the surgeries. The post operative blood levels, though low, could easily be rebuilt without compromising patients' survival.

Our dual implant application in the treatment of aseptic non unions of the femur including those treated by traditional bone setters was novel and resulted in bony unions despite the non availability of modern interlocking nail devices (**Ekere** & Echem, 2008). In all the cases we combined an intramedullary nail with a bone plate. The nail helped in alignment while the plate maintained length gotten at surgery and also prevented rotation.

We even got quite some tibia bone length using the Illizarov lengthening technique in an accident victim with infected open tibial fracture and bone loss (Ibeanusi & **Ekere**, 2007). This was very rigorous, taking several months with an acceptable length. With an external fixator we achieved a slow and gradual correction of a post traumatic foot contracture in a child (Adiela, **Ekere**, Yellowe, Echem & Omodu, 2006). The final foot appearance was quite commendable.

5b. Gunshot injuries.

Firearms have evolved in tandem with society and have become such an inherent part of the culture that with increasing urbanization and social tension, they have become a prime instrument of conflict initiation and resolution (Doukin & Coughin, 1997; Rhee & Martin, 1997;Tejan & Lindsay,1998). These firearms are broadly grouped into high velocity and low velocity weapons using a critical speed of 600 meters /second (Solomon,Warwick & Nayagam,2001). Worldwide, the incidence is on the increase and our local challenge got complicated by students and youth cultism and the Niger Delta struggle, the so call MILITANCY (Cradon,Bruce & Harding,2004;Adotey,Jebbin & **Ekere**, 2006).

Fig. 8a: Gunshot Injury of the face – Before Suturing

Fig. 8b: Gunshot Injury of the face - After Suturing

Our studies revealed a changing pattern of these injuries, in late 90's low velocity missile injuries far outweighed high velocity injuries, but by 2002 and 2004 we were already seeing more of high velocity missile injuries because of increasing crime rate and restlessness in the region. Also, the lower extremities were the most wounded followed by the chest and abdomen, revealing the intent of wounding to be an attempt to immobilize the victims or outright elimination of the victim. The male was a very culpable target far more than women in a ratio of 8:1 when considering all injuries, and 5.3:1 when considering only injuries to the extremities (**Ekere** & Dimoko, 2002; Adotey, Jebbin & **Ekere**, 2006). These studies also revealed that armed robbery, unknown assailants and the police were the main causes of these injuries and none of the injuries was suicidal unlike Slovenia where 86.5% of these injuries were self inflicted (Strojnik, 2004). Most of our patients arrived hospital after twelve hours when infections must have set in probably because police reports are demanded

before treatment and also because of the attempt at cover up of the crime. Majority of our patients benefitted from minor outpatient treatments, but the mortality rate was high because of the severity of some injuries, especially those of the chest and abdomen. About 10/135 victims were dead on arrival, although survival in strictly extremities injuries review was better.

Where there is some controversy is the claim that people can have bullet proof medicine, and bullets can be extracted traditionally. Even though one will not want to join issues with deep traditional beliefs, Udosen et al in Calabar did a case series for those who went for traditional extraction, and found all the pellets intact on X-rays (Udosen, Etiuma, Efem, Essien & Marwa , 2009). Some traditional bullet extractors now warn their clients not to go for X-ray after treatment as otherwise, the extracted bullets would return into the victim.

5c Trauma deaths.

Mr Vice chancellor, Sir, permit me to dwell a little more on the supreme price that many of our sons and daughters are paying from a largely preventable cause. Trauma is the number 1 cause of death and disabilities in people who are 40 years and below (Eke, 2001). The bulk of deaths globally in the emergency room are of non traumatic origin (80 percent) while the surgical deaths in our environment comprise mostly road traffic and gunshot injuries (Shalley & Cross, 1984; **Ekere**, Yellowe & Umune, 2004; 2005; **Ekere** & Ndubuisi, 2008). Our studies revealed that many of our surgical deaths occurred from head injuries, while cardiorespiratory failure was the usual terminal exit labeled secondary cause of death, and most of the patients died within 24 hours of admission**.** In our studies on inpatient deaths, presenting pathologies included head and cervical spine injuries, musculoskeletal cancers and

cardiovascular pathologies. Common immediate causes of death included septicaemia (blood infection), pulmonary embolism (blood clot or fat clot in the lung vessels), head injury and adult respiratory distress syndrome (breathlessness from fluid collection in the lungs (**Ekere** & Ndubuisi, 2008; 2009).

We also did the first report on **domestic accidental deaths** in the Niger Delta region which showed a bimodal distribution of the deaths affecting a good number of preschool children and the elderly of 70 years and above (Seleye-Fubara & **Ekere**, 2003). A lot of the accidents occurred in the urban areas obviously because our centre is located within this urban environment, while most children died from poisoning from drugs and chemicals likely due to poor parental supervision and the worrisome responsibilities heaped on barely educated house helps. The elderly deaths came mostly from falls due to age related poor coordination, drugs and alcohol, poor vision as well as arthritic changes. Interestingly, in this series, we had gunshot injuries from protective weapons kept at home, which children use unwittingly to replicate film scenes they have watched. Death from inflammable substances like petrol and kerosene stored at homes caused severe burns when in contact with naked flames used due to epileptic electricity supply. Three unfortunate stories include an obese lady that accidentally slept on her child, a baby that drowned in a bucket of water and a man who slipped in his bath tub and broke his neck-all avoidable and preventable causes of death.

6 Research in Orthopaedics

I will like to briefly summarize some studies we conducted on some chronic orthopaedic problems.

6a. Sickle Cell Osteoarthritis of the Hip

Sickle cell disease is the most single gene disorder in West Africa with a combined prevalence in Nigeria of haemoglobin S and C of about 2-3 percent, and sickle cell trait (HbAS) of 25 percent (Omotade, Kayode, Falade, Ikpeme et al, 1998). In some of these patients the femoral head dies because of the peculiar blood supply resulting in chronic inflammation, and coupled with the inherent predisposition to infections in sicklers the hip joint becomes osteoarthritic (Solomon, Warwick & Nayagam,2001;Bonaire & Weber, 2002).

Even in the adolescent this severe joint damage is currently being treated by joint replacement surgeries, and the non-cemented type is preferred because these implants expire and will need to be changed in an average period of 15 to 20 years (Sungay & Moreau, 1996; Ilyas & Moreau, 2002; Launary, Jouve, Guillaume, Viehweger et al, 2002). We made the first report on cementless hip replacement in Nigeria in 2007 in sickle cell disease patients we handled about 7 years ago (**Ekere**, Eze, Ebirim, 2007) and since then more young people have benefitted from the procedure with good results.

6b.Diabetic Foot Disease

Diabetes mellitus (DM) is the commonest endocrine disease in Nigeria with a prevalence of 2.2%. Its complications are on the increase in the tropics and the diabetic foot is its commonest surgical complication (Alebiosu, Kadiri & Akang, 2000; Boulton, 1996; **Ekere**, Chinenye & Dodiyi-Manuel,2003; Anyanwu,1994). Diabetic foot refers to a variety of pathological conditions that may affect the feet in people with diabetes mellitus including ulcers, gangrene, lowered sensation, foot pain etc(Boulton,2001).Diabetic foot constitutes the second commonest indication for limb amputations next to trauma. In some centers it is becoming the prime indication for limb amputation. (Adotey & Jebbin,

2002; **Ekere**, 2003; Kidmas, Nwadioro & Igun, 2004). With the ban on commercial motorcycles in PH urban, with the attendant decrease in road trauma cases, UPTH is becoming one of these centres presently. The mortality in these cases are high, worse in our environment where cultural beliefs deter early ablative intervention (**Ekere**, Chinenye & Dodiyi-Manuel, 2003; **Ekere**, 2003; Amstrong, Lavery & Harkless, 1998).

In our study, we confirmed diabetic foot as a malady of the elderly with a mean age of 56+12 years and a mean duration between diagnosis of DM and development of diabetic foot of 13+5 years. Also the patients presented very late, early disease faring better and in gangrenous feet. A significant proportion of patients refused amputation leaving hospital at times against medical advice (**Ekere**, Yellowe & Dodiyi-Manuel, 2005).

In our environment traditional beliefs include the fact that amputees will reincarnate with absent limbs, while traditional practices include the indecent burial rites for amputees. These traditional practices encourage late presentation, consultation with alternative practitioners and acceptance of ablative treatment very late when the patient's clinical state is very precarious.

We proposed a treatment algorithm as a guide when dealing with diabetic foot infections.

Therapeutic Modalities for Diabetes associated foot infections

Lesions	Metabolic regulations/ Local measures	Antibiotic treatment	Surgery
Uninfected Ulcer	++	None	+
Cellulitis	+	++	**None**
Abscess	+	+	++
Necrotizing Fascitis	+	+	++
Osteomyelitis without gangrene	+	++	+
Ischaemic gangrene(dry)	+	None	++
Infection plus gangrene	+	++	++

Key: ++ = major therapeutic modality + = minor therapeutic modality

(**Ekere**, Chinenye & Dodiyi-Manuel, 2003).
We called for collaboration from other researchers.

6c. Neglected Musculoskeletal deformities including Poliomyelitis.

In many African communities, children with musculoskeletal deformities are abandoned medically and many of them grow into adulthood or even die with these deformities. The cause of the neglect is a combination of ignorance and superstition as many of these are regarded as spiritual affliction, and even punishment from the sins of previous life (Doumbouya ,Brouh, Attia et al, 2006).The causes of these disorders include congenital disorders (Omololu, Ogunlade & Alonge,2005), sequelae of infections like poliomyelitis, trauma, metabolic and growth deformities such as Blount's and rickets. The specific deformities seen include severe muscle weakness, scar tissue contractures, angular deformities around the knee and grotesque foot deformities to mention but a few (**Ekere** & Etukudoh,2008).

Without an iota of doubt, many of these patients consulted with alternative practitioners including traditional bone setters and that contributed to why all the patients presented late. Poliomyelitis formed the bulk of the cases in our series, while congenital disorders were mostly club feet. Most patients did

well only with soft tissue releases and even though educational status appeared not to influence these neglects, bulk of the patients had only primary or no education, suggesting that poverty must have constituted a strong predisposition. A lot of the patients walked for the first time in life after the intervention empowered by the Daughters of Charity's Compassion Center (**Ekere** & Frank-Briggs, 2008; **Ekere** & Etukudoh, 2008).

We developed a grading system to assess response to treatment thus:

Status	Grade	Factors considered
Good	1	Remarkable functional development.
		Good soft tissue/bone healing.
		No residual surgical complication.
Fair	2	Some functional improvement.
		Reasonable soft tissue/ bone healing.
		Minor/Moderate residual surgical complication
Poor	3	No change in pre-treatment function.
		Worse than pre-treatment function.
		Severe long term post treatment complications.

(Ekere & Etukudoh, 2008).

Fig. 9: Musculo Skeletal deformity (Before & After Treatment)

Fig. 10: Musculo Skeletal Deformity (Before & After Treatment)

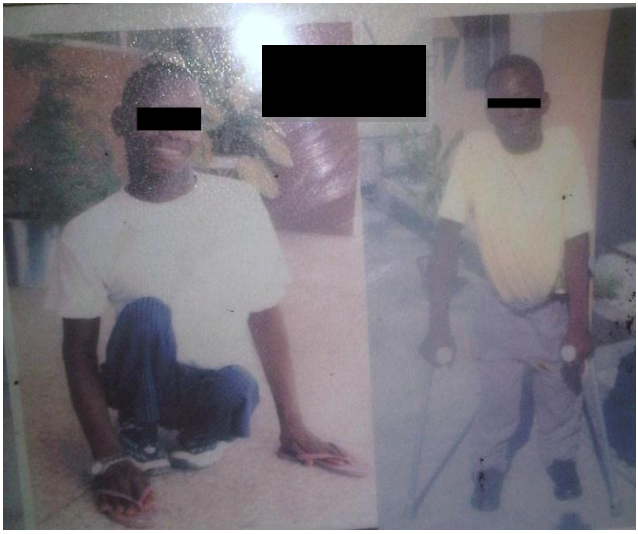

Fig. 11: Musculo Skeletal Deformity (Before & After Treatment)

6d. Spine Research

(i) **Management of Tuberculous Spondylitis**: Tuberculosis (TB) was declared a global emergency by WHO in 1994. In 1996, 30 million people were estimated to be living with tuberculosis (Luk, 2000). The rising incidence is blamed on immune depression (including HIV/AIDS), drug and alcohol abuse, malnutrition, poorly controlled therapy, chronic kidney failure, blood and defense system (Reticuloendothelial) cancers (Luk, 2000; Nwadiaro, Legbo, Ukoli, Nwadiaro et al, 2002, leonard, Killen, Mansfield, Gibson et al, 1998). TB of the spine affects about half of the cases of musculoskeletal TB which contributes 3% of TB burden. Although no part of the spine is spared, the disease has a predilection for the thoracic spine.

The peak age group was in the 3rd and 4th decade, the commonest presenting symptoms being weight loss, low back pain and difficulty in walking, with no sex predilection. Most patients presented late after a month with physical signs like gibus (hunch-back), and lower limb paralysis, many benefitting from conservative treatment with combination anti TB drugs and/or outpatient treatments (**Ekere**, Yellowe & Echem,2005).

(ii) Far Lateral Disc Surgery.

The shock absorber placed between the bony vertebral bodies (intervertebral disc) can be damaged by trauma, degenerations or infections leading to a leakage of it fluid center, nucleus gelatinosa, and causing nerve root compression at the same vertebral level while sparing the usually affected nerve that exits a level below. The pressure on the nerve roots produce radicular pain usually into the lower limb of the affected side (Hood & Marshall, 1997; Guiseppe, Mandelli, Capacionni et al, 1999; Abdullah & Ditto,1974). Several surgical treatment

approaches have been suggested, geared toward maintaining vertebral (back) stability. At the London Health Sciences Centre, Ontario, Canada we found that the simple midline approach sufficed for the removal of the damaged intervertebral disc and that stability was not compromised especially in unilateral (one sided) back joint destruction to improve access. Most patients benefitted from the surgeries and the poor outcomes were linked to pretenders seeking benefits from the Workmen Compensation Insurance Scheme (**Ekere** & Bailey, 2004).

(iii) Structural Scoliosis

The topography of the vertebral column is such that three curves in the saggittal plane secure the anteroposterior balance of the trunk. In the normal spine, there is a slight lateral tilt which direction is related to handedness (William, 1995; Snell, 1995). Scoliosis is a complex condition of inadequately understood pathogenesis that is characterized by lateral bending in the spine and rotation of the vertebra. It is commoner in the female adolescent (Solomon, Warwick & Nayagam, 2001; Jones & Hill, 2004). In Nigeria scoliosis appears to be under reported. Therefore we decided to study pattern, magnitude, direction and extent of rotation of spinal curves. We found that females present earlier than males with more severe angles of spinal deformities having a higher curve progression challenge. We recommended a scoliosis surveillance programme after noting that most of the curves in our locality is thoracolumbar (Jaja, Didia & **Ekere**, 2008).

6e. Infections.

Bone and wound infections in orthopaedics can be a nightmare as it might take a lifetime of trying to eradicate it.

(i) C**hronic osteomyelitis (CO).**

This is a chronic infective process resulting in destruction of the bone with formation of new bone. It is common in children under 5 years, although it is not a known contributory factor to under 5 mortalities in Nigeria (Okoroma, 1986; Onuminya & Onabowale, 2003; Carek, Dickerson & Sach, 2001; Oruamabo, 1987; Adeyokunnu, Taiwo & Antia, 1980). It has been suggested that children with sickle cell disease are more predisposed to developing CO but several studies show that children with genotype AA are as frequently affected as sicklers (The Clevaland Clinic, 2007; Carek, Dickerson & Sach, 2001; Onuminya & Onabowale, 2003). The above studies reveal that *Staphylococcus aureus* is the commonest infective organism, usually blood borne in children and affects long bones like femur, tibia and humerus with common presentation of multiple sites.

Our study in Port Harcourt revealed that the commonest cause remains *S. aureus*. It affects school children from lower socioeconomic class. They usually present late, causing prolonged hospitalization with chronic disability and loss of school time and educational opportunities (Nte, Eke & **Ekere**, 2005). We recommended promotion of prompt diagnosis and effective treatment to improve children's chances at school and life.

Fig. 12: Dead Bone Protrusion in Chronic Osteomyelitis

(ii) Microflora patterns in antibiotic treated traumatic wounds

The cause of bone and joint infections can be from trauma, direct inoculation following surgery, spread through the blood stream and spread from nearby infected sites (Krizek & Robson, 1975; Solomon, Warwick & Natayam, 2001). Surgical wound infection causes significant post operative morbidity and mortality and increases hospital bill 10-20%. Continous antibiotic usage needs monitoring as resistant organisms can develop, needing change in antibiotics given.

Our study showed that *S aureus* and coliforms were the commonest agents prior to commencement and delivery of two courses of antibiotics in traumatic wounds. In-vitro susceptibility patterns showed that all isolates were significantly sensitive to flouroquinolones, in changing patterns. In antibiotics management of traumatic wound

infection, there is need to take into consideration not only the culture of the first wound swab but also the possibility of wound contamination following antibiotherapy, and in-vivo response to antibiotics (Obunge & **Ekere**, 2002).

6f. Malignant Change

Chronic irritation is a known reason why long standing wounds become cancerous (Rieger, Kalbermatten, Wettstein et al, 2008). World literature search revealed that at least five years are needed for the malignant transformation to occur (Stevenson, Hohn, Pohler et al, 1982). In our series we got a patient who transformed in three years with a history of repeated trauma at the same spot (**Ekere**, Adiela & Kejeh, 2010). They all presented late with lower limb affectations, making salvage difficult. All had amputation done on them. One had metastasis to the inguinal region and had to leave hospital because of financial constraints.

7. The Challenge of the Traditional Bone Setter

Mr. Vice Chancellor, Sir, the emphasis of my discussion on traditional challenge to our practice today will be on the Traditional Bone Setter, referred by some Orthopaedic Surgeons as "our colleagues on the other side". The World Health Organisation in 2004 described traditional medicine as the sum total of knowledge and practice, whether explicable or not, used in diagnosis, prevention and elimination of physical, mental and social imbalance and relying extensively on experience and observation handed down from generation to generation, whether verbally or written. In principle, it is a recognized, acceptable community-based practice that exists for the benefit and not the detriment of the community (WHO, 2004). This will better describe the developed and mature concepts like the Chinese traditional medical practice and a few others which have evolved over centuries into some

scientific and methodical approaches (Kohler, 1981). Our experience here and in other parts of Africa has been that of "tales of woes" (Bickler & Sanno-Daunda, 2000; **Ekere**, 2003; 2004; Onuminya, 2005).

7a. Factors Influencing Patronage

Hatipoglu and Tarker (1995), in an epidemiological study involving bone setters and their clients found a very high degree of confidence in the art, even though the basis was unfounded, while a study in Nigeria hinged this high confidence on basic cultural belief systems (Thanni, 2002, Nwadiaro, Ozoilo, Nwadiaro, Kidmas & Oboiren, 2008).This confidence is so strong that even obvious complications do not seem to deter others. Thanni also opined that cost consideration is a major factor and therefore in a chronically depressed economy as ours, patronage will remain high. Casual appreciation of this cost factor might look true, but is it? What is the price of ignorance or management of a complication? Educational level did not appear to adversely affect patronage, as persons with tertiary education felt their services were indispensible or desirable (Thanni, 2002; Udosen, 2009). Sir, I had a very sad moment in practice when I had to amputate a limb of an 18 year old model, a daughter of a university professor, who was mismanaged by a TBS; and because of late presentation, extent of damage and the challenge of conserving as much as possible, rehabilitation was very difficult.

In a society as ours where virtually every reversal in life has a spiritual undertone, these Priest-Physicians come in very handy. It is believed that they have the ability to "break curses" and even expel bad spirits including witchcraft, which then allow the ailment to heal uneventfully (Engelmann & Hallof, 2004). Even magical devices like the "bullet proof", an

unseen spiritual vest or material that makes one immune to gunshot injuries, are prepared by this traditional practitioners, failure of which have resulted in catastrophic incidences sometimes ending in death or amputations (Onuminya,2005; Udosen,2009).

Adverse propaganda on modern orthopaedic practice has also not been very helpful because of the wrongly held view in society that fracture and other bone ailments are treated by amputations in hospitals. This is deeply ingrained in the psyche of the people and is not affected by the level of education. However, the fact remains that amputations can only be performed properly in a modern orthopaedic practice, and quite a significant proportion of these patients are from the TBS's misadventure (Onuminya, Obekpa, Ihezue, Ukegbu & Onabowale,2000;Thanni 2002; **Ekere**, 2003; 2004, Nwadiaro, 2007).

The misfortune is that TBS are rarely sanctioned for their misadventure by clients probably because of the spiritual powers people think they have, and by government because of sheer lack of concern and political will regarding health care. Instead of concerted efforts by government and non-governmental groups to educate the people on these societal challenges using the print/electronic media, it is the traditional practitioner that is permitted unrestricted airtime to promote his/her services. This can only worsen a very bad situation. Sir, I am sure that you have heard the glorification and worship of the almighty "staphylococcus" (many times a harmless skin inhabitant) which causes almost everything and therefore deserves absolute focus for treatment. In Nigeria, the TBS cannot determine his/her limits and we have seen their attempts at treatment of congenital abnormalities like club feet, sophisticated injuries like fractures into the joints (intra-articular fractures) and spinal injuries, and even cancers

(Oguachuba,1986;Agarwal & Agarwal,2005; **Ekere**, 2003; 2004). In Port Harcourt, we now see TBS follow up their patients with serial X-ray pictures in an attempt to monitor bone healing (**Ekere**, 2004).

7b.Complications of Traditional Bone Setting

The many complications of traditional bone setting are usually problems of bone healing including infections and neurovascular (nerves and blood vessels) injuries. The most topical complication is the so called 'bone setters gangrene', a term that was coined in Enugu, Nigeria by Onuminya and his group in 1999(Onuminya, Onabowale, Obekpa & Ihezue, 1999, Nwadiaro, Nwadiaro, Kidmas & Ozoilo, 2006). All fractures and dislocations, even congenital deformities are usually treated by closed manipulation and splintage which is usually too tight causing vascular and neurovascular complications to the distal portion of the limbs (Oguachuba, 1986; **Ekere**, 2003; Agarwal & Agarwal, 2005). Even when there is severe swelling the splint is left in place causing catastrophic increase in compartment pressures which may might lead to gangrene of the affected limb or severe fibrosis of the tissues in the limb (Volkmann's ischaemic contracture) when the insult is less severe, as observed in fractures of the humerus above the elbow joint. Apart from the fibrosis causing an awkward appearance of the affected limb, many of the patients present with wrist and foot drop due to nerve damage which poses management challenges (Engelmann & Hallof, 2004; Eshete, 2005). We have seen cases that were kept despite the obvious blood vessel injuries until the limbs literally fell off, and the amputations were only refashioned (**Ekere**, 2004; Udosen, 2009).

Systemic and/or local infections are common in patients with wet gangrene (caused by severe bacterial infection) and those

with open fracture treated with herbal concoctions (Ofiaeli, 1991). Some practitioners actually splint open fractures for days without any attention to the wounds. The offending organisms are usually gram positive organisms like *Staphylococcus aureus* although gram negative infections can be a life threatening challenge. Some of the patients even come down with gas gangrene due to infection with *Clostridium welchii*, resulting in very high morbidity and mortality. Local sepsis is usually chronic osteomyelitis which can affect the entire diaphysis or shaft of a long bone (ofiaeli, 1991). We have even seen patients who presented with dead bone protruding through the skin and dripping pus (Ekere, 2004).Chronic ulcers result from infections with common flora depending on the environment (Thanni, 2002; **Ekere**,2003).

Relatively salvageable complications include non-unions, malunions, angular deformities and colour changes (Garba & Deshi, 1998; Eshete, 2005). Fractures involving large bones like the femur are treated conservatively which is an almost impossible approach to perfection and a definite panacea for some form of disaster. The bones even join at joints like elbow, the radius and ulna can become one bone, so can the tibia and fibula; this complication is largely due to the repeated massage the limbs are subjected to (Eshete, 2005).

Our recent observations in Port Harcourt confirms the cultural belief, most of our patients were pressured by friends and relatives to go to TBS. Our complications reflected the general pattern (**Ekere** & Echem, 2011, 2011).

These complications cause emotional depression in the patients due to time and financial losses, aesthetic challenges and disabilities. Prevention is the key word in stemming the tide and education is paramount.

Fig. 13: Amputation from TBS

Fig. 14: Non Union from TBS

Fig. 15: Malunion from TBS

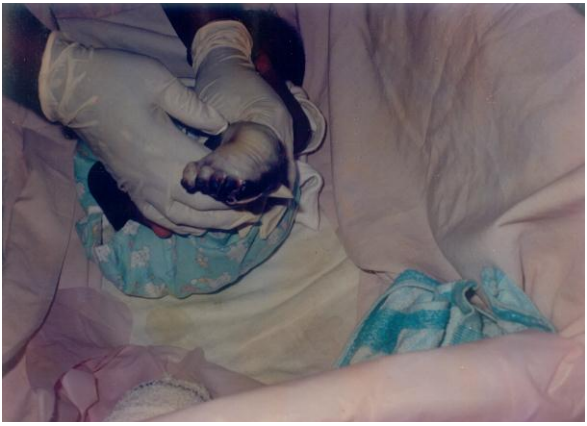

Fig. 16: Gangrene from TBS

7c. Proposals for prevention

Mr Vice Chancellor, Sir, many of my colleagues believe that the TBS are no use as examplified by Prof. Jaja's valedictory Lecture to the National Postgraduate Medical college in 1991; "TBS is a practice stagnated in the dark ages about a millennium from the 20th century….they know no anatomy, no physiology, no pathology. We have nothing in common and no government should encourage their practice". Despite this general stance, do we fight until we can stop this traditional practice in our environment? My honest answer is no. Are traditional bone setters of some use? Again my answer is affirmative yes. In Nigeria for example we have less than 400 orthopaedic surgeons to a population of about 150 million people which is grossly inadequate. Our inherent belief systems favour this practice and cannot therefore be dismissed by the wave of the hand. Therefore, I honestly think orthopaedic surgeons must look at ways of making TBS safe in our environment just like gynaecologists and obstetricians integrated the traditional birth attendants. I will like to buttress my position with published facts on this subject matter.

Eshete M, in Ethiopia, by a prospective analysis alludes to the fact that a day's instructional course for TBS, in addition to a two day course for health assistants on fracture care reduced the incidence of amputations in his region significantly. Agarwal commenting on Shah's suggestion supported the integration of traditional bone setting into orthodox orthopaedic practice. Education of these practitioners was emphasized with a suggestion that teaching hospitals should adopt traditional practitioners for training in their region. They actually suggested that the trained TBS can be integrated as primary fracture care givers with emphasis on appreciating their limits (Eshete, 2005; Agarwal & Agarwal, 2005; Oguachuba, 1986). Education and enforced legislation are the

backbone to a sustainable improvement of the present situation (Garba & Deshi, 1998, Ekere, 2003; 2004; Omololu, Ogunlade & Alonge, 2002).

Omololu et al in Ibadan, Nigeria, suggested improved awareness campaigns by way of adequately communicating with the populace through the television, radio and print media (Omolulu, Ogunlade & Alonge, 2002). Bickler, in Gambia, reporting on bone -setters gangrene in children, noted that this complication is preventable, thus the need for health planners to emphasis basic trauma care. In addition, they added that fracture management must be an essential component of child health programmes in the developing world (Bickler & Sanno-Duanda, 2000). Ofiaeli suggested emphasis on primary surgical care at the rural hospital level since most of the victims come from the rural setting with scanty medical facilities (Ofiaeli, 1991). Odebiyi interviewed western trained nurses and found that traditional birth attendants were rated highest in usefulness in Nigerian when compared to other traditional health practitioners, TBS and traditional pharmacists were with the least rating (Odebiyi,1990).

It should be possible with legislation to force some priest physicians to open up their practices to scrutiny and standardization. They should be encouraged to form unions through which they can be positively influenced as an interest group. Possibly corporate welfare packages and other benefits like government grants can be dangled as carrots (**Ekere**, 2004).

8. CONCLUSION

Mr Vice Chancellor, Sir, the inspiration for this lecture came from my many years of regular challenge in my practice from the TBS. As strange as it sounds, I have had referrals from the

TBS, many times, at a very late stage of the disease. If you were to ask me how it has been, I would have been tempted to answer as Jacob did in Egypt before Pharoah; "The days of the years of my pilgrimage are… few and evil …" Genesis 47:9, but I have seen a lot of good. Few years of practice, but full of trouble: from TBS, my professional colleagues, our general underdevelopment and my personal inadequacies. But Sir, I am glad to say that I AM STILL STANDING.

Since most of these challenges from TBS are preventable, long standing basic cultural beliefs that encourage patronage, can best be handled by intense and persistent education. There is need for a deliberate unlearning process of the society, and all of us need to be recruited into that army of volunteers.

Emphasis on legislation should be on enforcement. Like orthodox doctors are sanction when they err, traditional practitioners cannot be allowed to act as if they are above the law. Governments must pay more than lip service to improving the standard of healthcare delivery especially in the rural areas.

We can reduce complications from ignorant musculoskeletal interventions by opening up communication channels; first, with the larger society, and then with traditional practitioners. Teaching Hospitals with Orthopaedics or good general surgical units should adopt for training the TBS in their areas. There has to be a strong government cooperation to this project of recruiting and training TBS if it is to succeed. A strong commitment to primary fracture care appears to me to be a major way out. I strongly believe that this is the way forward, taking into consideration all our peculiarities.

Fig. 17: Abandoned Talipes Equino Varus

Fig. 18: Amputation from Vascular disease

Fig. 19: Crush Injury of the right leg with multiple fractures

Fig. 20: The leg in external fixation after debridement

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CITATION ON
PROFESSOR ANIEKAN UDOH EKERE

BY

PROF PATRICK EGHRUJAKPOR

Introduction:
Mr Vice Chancellor, Sir, the 77th Inaugural Lecturer of the University of Port Harcourt is none other than Professor Aniekan Udoh Ekere.

Professor Aniekan Udoh Ekere was born on the 28th of January 1957 in EdemAya, Ikot Abasi, Akwa Ibom State to the family of Sir (Obong) Gabriel Sampson Ekere and Mrs Anwanwa Gabriel Ekere. He is the first of nine children.

Education: He attended the popular Regina Coeli Secondary School, Essene, Ikot Abasi, 1970-1974 to obtain the West African School Certificate O' Levels and The School of Basic Studies, College of Technology, Calabar, 1974-1976 to obtain The University of Cambridge A' Levels. After this he proceeded to College of Medicine, University of Lagos, 1976-1981, where he obtained the Bachelor of Medicine, Bachelor of Surgery (MBBS) degree.

He commenced the post graduate training in surgery at the University of Calabar Teaching Hospital in 1983, rising through the ranks to become a Senior Registrar in Orthopaedics and Trauma in May 1988. He completed the residency training in May 1990, being the first wholly institution trained resident in Surgery there to bag the fellowship of the National College of Surgeons of Nigeria (FMCS).

Medical Study Fellowships:
Apart from many exposures in Nigeria, he did a trauma fellowship in Germany, powered by the AO/ASIF (Association for the Study of Internal Fixation) in 1996 at Abt. Fur Unfall-hand- und Wiederherstellungschirurgie Universitatsklinikum Ulm, Steinhovelstrasse 9, Ulm. In 2000, he proceeded to London Health Sciences Centre, Ontario, Canada for Spine Surgery exposure with a World Class Back Surgeon Dr Stewart Bailey. He also did an Interlocking Nail fellowship in Hospitaux Universitaires de Strasbourg, Starsbourg Cedex, France, University Hospital in 2009, sponsored by Synthes.
He also attended short sponsored causes in Davos Switzerland organized by the AO group. He successfully completed the Basic Trauma Course in 1996 and the Advance Courses in 1997 and 1998. He has been to several cities in four continents of the World for medical conferences. In 2010 he attended the Emergency Response training in the popular Tel Aviv Medical Centre, Tel Aviv, Israel. So he has quite some international exposure in his area of interest.

Academic career and Leadership:
Prof Ekere was first appointed Lecturer 1 in surgery, College of Health Sciences, UNIPORT in 1992. He was promoted Senior Lecturer in 2002 and the first full professor in Surgery (orthopaedics and Trauma) of this great institution in April 2009.

He has done quite some pioneering work in the field of Orthopaedics and Trauma in Port Harcourt. His efforts with that of his colleagues have placed the University in the academic map of the world.

He is the present Head of Department of Surgery in the University of Port Harcourt and The University of Port

Harcourt Teaching Hospital. He was a long serving member of the Housing Committee of the University, and presently a member of the Library Committee.

Academic and Professional Service:
Prof Ekere is an external examiner at MBBS (final) examinations to Obafemi Awolowo University, Ile Ife and University of Calabar, Calabar. He is also an examiner at the Part 1 & 2 levels of the National Postgraduate Medical College of Nigeria.

He has over the years been part of several accreditation panels to inspect centres for postgraduate training in surgery from the national college.

He was the founding editor of the Nigerian Journal of Orthopaedics and trauma, 2002-2005, second editor of the Nigerian Health Journal, 2006-2009; and is still a member of a few editorial boards, and a reviewer for many national and international journals.

Research career:
Professor Aniekan Udoh Ekere is an avid researcher and has indeed had a fulfilling research career attested to by the number and quality of his research publications in various learned journals and his membership/fellowship of several professional/academic societies.

Professor Aniekan Udoh Ekere has over 44 full length articles in various national and international journals, 4 short communication and letters to the editor. His area of interest has been in road trauma and trauma related deaths. But he has also done a lot of work in chronic and challenging Orthopaedic problems in our environment, and presented the first report in

Nigeria on total non cemented hip replacements in sickle cell patients. He and his colleagues also proposed a simple neck traction device for cervical problems named the "The Skin Traction Kit Cervical Collar hybrid Appliance". He and his research group where the first in the world to report a malignant transformation from a chronic wound irritation in 3 years.

He is currently an AO alumnus, Member of the Nigerian Medical Association, Member Nigerian Orthopaedic Association, Member International society of Orthopaedic and Trauma Surgeons (SICOT), Fellow National College of Surgeons of Nigeria, Fellow West African College of Surgeons, Fellow International College of Surgeons and Fellow Association of General Practitioners. He also has several excellence awards from in and out of Nigeria.

Other Professional Responsibilities:
He is the Medical Director, Rehoboth Specialist Hospital, Port Harcourt and Chairman, Christian Help International Foundation, a rural medical outreach ministry.

Christian Leadership:
Prof Ekere is a Christian leader in Nigeria. He is the General Overseer, Wings of Redemption Ministry, with branches in Akwa Ibom, Rivers and Lagos States. He is The River's State Coordinator, Intercessors for Nigeria. He is a Life Member, Full Gospel Business Men's Fellowship International. He is a regular conference speaker in local and international Christian flora. He is an author of 4 Christian books; Pillars of Effective Prayers, Foundational Strongholds, Standing Strong in Your Night Seasons and Discipline: the key to Discipleship.

Private Life:
Professor Aniekan Udoh Ekere is happily married to Mrs Pauline Aniekan Ekere and the marriage is blessed with 5 biological sons; Emmanuel, Paul, Aniekan, Daniel, Joshua and several other adopted sons and daughters.

Professor Aniekan Ekere is a devoted, born again Christian of the Pentecostal inclination. He is a pastor and General overseer, Wings of Redemption Ministry.

He is interested in watching soccer, plays squash rackets and table tennis when they are available.

Conclusion:
Professor Aniekan Udoh Ekere has devoted his life to the service of University of Port Harcourt, his country and humanity; spiritually and physically. He is a good husband, a devoted father, a committed pastor, an outstanding scholar, an avid researcher, a philanthropist, an accomplished Orthopaedic surgeon, a mentor, a good role model worthy of emulation.

Mr Vice Chancellor, Sir, ladies and gentlemen, it is my honour and privilege to present to you Professor Aniekan Udoh Ekere, the77th Inaugural Lecturer of this University.

Mr Vice Chancellor, Sir, I am done. Ladies and gentlemen, thank you for your kind attention.