

Twenty Years of Primary Care Surgery in Ibarapa

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INTRODUCTION

My teachers, Professor (Mrs) O Olurin and Professor (Mrs) O Osuntokun; my chief, President of the Ophthalmological Society of Nigeria, Dr BGK Ajayi; my senior colleagues; the executive; and distinguished members of this surgical society.

From the outset, I wish to express my deep gratitude for the invitation and honour to deliver the President's Lecture at this year's congress of the Ophthalmological Society of Nigeria (OSN). It is a unique opportunity for me to relate some of my experiences in the surgical frontline of Ibarapa District of Oyo State during the last two decades. It will also mark my second professional visit to the city of Ilorin, the gateway between the North and South of Nigeria. I was here in 1994 at the invitation of the Society of Gynaecology and Obstetrics of Nigeria, SOGON. The subject for review at that symposium was: *Maternal Mortality - The way forward*.

Mr President, sir, distinguished members; I bring you good tidings from the peaceful rural folks of Ibarapa. The foundation of my twenty-year sojourn in Eruwa, headquarters of Ibarapa East Local Government was laid at the University College Hospital (UCH), Ibadan in 1972 when I was a neophyte clinical student on ward E1. Professor EO Olurin was the generalissimo. He and Prof OO Ajayi, his deputy, laid my solid foundation in surgery. This they continued to do during my residency training from 1977 to 1983. I remember, with gratitude, that Professor Olurin would leave me to perform a thyroidectomy while he stayed in his office. That was the degree of confidence a dear teacher reposed in his student. I should add that I received all my surgical training in Ibadan.

Three months into introductory clinical medicine, we were on the third floor of UCH. In retrospect, I

consider myself very fortunate to have been in the Neurology Unit of the great researcher, Professor BO Osuntokun of blessed memory, and his able lieutenant, Professor O Bademosi. At that early stage in medical training, we were taught evidence-based medical practice and the rudiments of clinical research. Their legacy is still alive in UCH.

It was Prof Osuntokun who said at a grand round lecture I gave at UCH in 1986:

"physicians like to describe surgeons as those who know nothing but can do something, and physicians, of course, as those who know something but can do nothing and psychiatrists as those who know nothing and can do nothing".¹

Later on in undergraduate training, during the specialty posting, we spent about two months in the department of Professor (Mrs) O Olurin and Professor (Mrs) O Osuntokun, the ladies who had eyes like an eagle and hearts like a lion. Truly, in the human body, the eye is a respectable organ - *OJULOWO ni toto*. They put into focus, like the eye, all we had learnt from the surgeons, the neurologists and other physicians. I remember them operating with scrubbed bare hands. I wonder what the practice is now in these days of HIV/AIDS. But we should remember that the more infectious hepatitis B virus was and still is rampant.

Finally, we were some steps behind senior colleagues like my chief, Dr BGK Ajayi, so the learning environment was so conducive, the word failure was not in our dictionary!! In fact, during examinations, it was assumed we had passed until proved otherwise.

That was the stage set when I was posted to rural Ibarapa district of Oyo State in 1983 as 'Ambassador Plenipotentiary' of the Ibadan Medical School and its

University College Hospital. I am an Associate Lecturer of the College of Medicine.

My mission as a scientist and a surgeon was to offer service - teach, train and learn from all who worked with me and conduct research into the medical and social problems that came my way.

My twenty-year sojourn in Eruwa can be divided into two disproportionate periods: the first three years, 1983-1986, at the government District Hospital, Eruwa and the remaining 17 years in a private practice, Awojobi Clinic, Eruwa.

SERVICE

The first thing I learnt on getting to Eruwa was that I was going to manage both the patient and his relations. Family members will stay with a patient 24 hours of the day. They offer useful nursing care and act as continuous monitors of the patient's well being. Some could be mischievous - administering native drugs to the patient or other tablets brought from home. Fortunately, this practice is infrequent, as I engage in health education most of the time. Maximum cooperation is readily assured if steps in the patient's management are explained to them, especially in surgical cases.

Table 1 shows the operations performed in the 20-year period August 1983 to August 2003. It reflects closely the pattern of surgical diseases seen, excluding minor trauma, snakebite and minor surgical problems like superficial abscesses and lacerations. Trauma has not constituted a major clinical problem as vehicular traffic is very low - a feature of rural life.² Although snakebite is quite common, its complications - the most common being hemorrhage - are not of surgical importance.

The referral rate - mostly to UCH and other specialist hospitals in Ibadan was 1 in 1500 patients overall and 1 in 1000 surgical patients. They comprised patients with cataracts and pterygia. While onchocerciasis is endemic in Ibarapa district, the ocular complications are, fortunately, rare. Its peculiar presentation with musculoskeletal pains has been well documented by the late Dr CA Pearson³

As the number of patients with eye problems requiring the ophthalmologist's attention increased, my chief, Dr B G K Ajayi started a rural outreach of his practice based in our clinic in October 2001. He comes monthly (usually the last Thursday) without fail and the demand is on the increase. To date, he has seen a total of 341 patients. There is a plan for operative sessions too. One day, I am sure, he will give a more detailed account of his experience to this Society. On behalf of these patients, I wish to express our thanks to you, sir.

On our part, we have limited ourselves to extracting foreign bodies from the cornea. These included metal

chips from welders; sand, grass blades and thorn from farmers and pellets of bullets from hunters. We have excised disfiguring neurofibroma of the eyelid and meibomian cysts of the lid. We have treated conjunctivitis and cavernous sinus thrombosis as well. The introduction of the National Programme on Immunization has reduced the incidence of measles and its ocular complications. Primary malignant tumours of the eye in children and adults are rare. We have seen two cases of retinoblastoma out of 1010 malignant tumours in 20 years.

Table 1. Surgical operations in Eruwa 1983-2003

Operations	No.	%
External hernia repair	5250	48.2
Excision of lumps	1550	14.2
Hydrocelectomy	680	6.3
Laparotomy - Infection	650	6.0
- Gynaecologic	350	3.2
- Intestinal obstruction	185	1.7
Caesarean section	631	5.8
Prostatectomy	395	3.6
Thyroidectomy	145	1.3
Sequestrectomy	124	1.1
Vagotomy and drainage	120	1.1
Orchidopexy	118	1.1
Chest tube insertion	85	0.8
Major open fracture	60	0.6
Vaginal hysterectomy	36	0.3
Splenectomy	24	0.2
Vesico vaginal fistula repair	22	0.2
Nephrectomy	20	0.2
Others	450	4.1
Total	10895	100

Other referred surgical cases included:

- a patient with complete heart block who had a permanent pace maker successfully inserted in UCH in 1984 but died in Eruwa at the District Hospital of severe enteritis some months later. I removed the pacemaker postmortem and returned it to Professor S A Adebajo, the cardiac surgeon.
- a few patients with subdural haematoma for burr hole evacuation; in the early years, patients with giant goitres that might need endotracheal intubation; and patients with carcinoma of the uterine cervix or postmastectomy for cancer needing radiotherapy.

In recent years, the decay in tertiary care in our country occasioned by the long period of military rule has caused some patients with giant jaw tumours to drift to us for help. We have performed three

mandibulectomies and three maxillectomies for giant adamantinomas and fibrous dysplasia.

Performing a preliminary tracheostomy on day 1 (one) under ketamine anaesthesia solved the problem of aspiration during surgery in these patients. On the following day, the mandibulectomy (or maxillectomy) was carried out with the oropharynx and hypopharynx packed with gauze roll while the patient was breathing through the tracheostomy. The patient was weaned off the tracheostomy 48 hours after surgery.

Another problem associated with the decline in the teaching hospitals was the gross delay in obtaining histopathology reports on operative specimens. By August 2003, we had 49 outstanding reports at UCH Pathology Department dating back to 2001. We had paid one thousand five hundred naira (₦1,500.00) for each specimen.

Again, we have overcome that bottleneck by procuring the microtome and other accessories to produce the slides. We have processed eighty specimens to date and a pathologist in UCH reads the slides for us. Results are available within 10 days of obtaining the specimen by the routine we have established.

FINANCE

Finance has always been the bone of contention in any practice, particularly medical practice in the rural areas where the populace is relatively poor. For the practice to be successful, the services provided must not only be accessible and acceptable, but also affordable. The adoption of appropriate low-cost but effective technology has significantly reduced our capital investment.

In our Clinic, there is no employer or employee. We owe allegiance to our patients who receive the best we can offer and in return sustain us within their resources. Ours is a cooperative of professionals and non-professionals offering service in the health sector of the economy and in so doing we earn our means of livelihood.

Everybody is placed on a salary agreed by all. Every month a meeting of all workers is convened during which all financial returns of the month are tendered and decisions taken on payment of salaries and what to do with profit or loss.

In this way, a sense of belonging is generated in all workers and there can be no labour unrest, as the financial standing of the practice is known to all. In a private institution, it will form a solid foundation for continuity when the pioneers must eventually take their leave.⁴

INFRASTRUCTURE

In providing these services and performing all these operations at fees the patients could afford, much effort has gone into the adoption of appropriate technology in

the field of water and energy supply, lighting, improvisation, adaptation and fabrication of basic hospital equipment and production of materials.

Water Supply

Throughout the rainy season that spans April to October, all the rainwater falling on all roofs is collected in concrete reservoirs from cement gutters at roof level. A 30,000 litre reservoir will satisfy our requirement till January after which we resort to pumping of water from six deep wells sunk in the valley using a portable pump. Thus, we do not rely on the municipal water supply, which together with the national electric supply were absent continuously for six years. NEPA with its erratic supply was restored two years ago.

Energy Supply and Lighting

The buildings are constructed with large windows so that natural lighting is adequate to perform surgery in the daytime. Ventilation is good and obviates the need for fans and air conditioners. We have fabricated a coal furnace that is more efficient than the diesel or gas burner to operate the autoclave and the distiller.

Equipment

- The **operating table** was built in 1986. It is sturdy, has the basic tilts required by the surgeon namely: elevation and depression using the hydraulic jack of the motorcar, Trendelenburg tilts, neck flexion and extension and the lithotomy break. It can be fixed with our adaptation of the Mayo trolley which we call Olumide's table - after the medical officer, my student, who suggested it. It is made of 90% wood and 10% metal, covered with formica to improve its aethesis and allow washing down. It costs less than 10% of the imported brand made of cast iron.⁵

- The **autoclave** and the **water distiller** are made from domestic cooking gas cylinders and are powered by the coal furnace we fabricated. It takes 20 minutes to autoclave materials and water is distilled at the rate of 10 litres an hour.⁶

- The **pedal suction pump** is fabricated from plumbing pipe, a piece of leather and a reversed bicycle valve.

- The **haematocrit centrifuge** has been fashioned from the rear wheel of the bicycle. The disc revolves at 5400 rpm enough to pack the red cells in five minutes.⁷ When we ran out of plasticine for sealing the capillary tubes, the cheap and readily available candle wax has proved just as effective.⁸

- **Intravenous fluid therapy** is lifesaving in many clinical situations. However, the fluid must be available when needed in adequate quantity to ensure successful treatment

Until recently much of the intravenous fluid in the country was imported and costly on the open market. This had resulted in its scarcity in the peripheral health units, with attendant morbidity and mortality in patients requiring intravenous fluid therapy.

In 1984, two of my surgical patients (one elective and the other emergency) died from inadequate fluid therapy. So we launched into intravenous fluid production along the lines described by Maurice King in his very handy and practical book, *Medical Care in Developing Countries*.^{9,10}

We should remember that UCH used to produce all the intravenous infusions it needed when we were medical students.

To date we have produced 43 000 litres of normal saline, 2 540 units of acid citrate dextrose solution for blood transfusion and 1 300 litres of 25% dextrose all at 10% of the cost on the open market.

Transportation

Another major problem in health care delivery in rural areas is transportation. The poor and expensive transportation system deters patients from seeking medical help in time. We have contrived a tricycle from the conventional motorcycle and adapted it for a village ambulance. We call it KEKE ERUWA or AUTONOV -3.

SURGICAL TEACHING AND TRAINING

In the last two decades, undergraduate posting to Ibarapa has been more comprehensive and more fulfilling. Now, the medical students, who are regularly posted to our clinic, appreciate the true functions of the various levels of the pyramidal structure of health care delivery especially the crucial role of secondary institutions when they function properly. They learn early in their training that major surgeries are not the sole preserve of the teaching hospitals and that specialists can work effectively in secondary level institutions. Some of them are thus stimulated to plan for service in these institutions in future.

Residents (from Surgery, Obstetrics and Gynaecology and General Practice in UCH) working with consultants at this level learn more quickly and gain competence and skill in a relatively shorter time than their counterparts in the teaching hospitals. Career medical officers do not feel abandoned in the rural area as they work with their senior colleagues day and night.

The Residents and the students in turn provide some academic stimulus to the consultants who might otherwise decay when submerged in providing routine service.

Twenty career medical officers have worked with us since 1983, five at the District Hospital and fifteen at Awojobi Clinic, Eruwa. Several have proceeded to specialist training and become consultants; one is a professor of obstetrics and gynaecology. Others have

gone on to establish their practices in rural and urban settings.

Twenty foreign students (from USA, Canada, and Britain) have spent their elective months in our practice. Others from Finland have visited the clinic on an annual basis.

Mr President, permit me to express my views about the sub-theme of this congress: **Ophthalmological practice in Nigeria: Public and private mix – the way forward**. We have demonstrated in the last twenty years the mutual benefit derivable from the relationship between the university and the private sector in medical education and health care delivery.

Every consultant ophthalmologist should be an associate lecturer in the nearest medical school to his/her practice. They should give lectures regularly to the students and residents should be posted to their practice. As I said earlier on, the residents and the students in turn provide some academic stimulus to the consultants who might otherwise decay when submerged in providing routine service. Residents and medical students have been coauthors of some of our publications.^{8, 11-16}

Students of laboratory science in our various polytechnics have had their three-month industrial training in our Clinic. Two of them have joined us after graduation to man the histopathology section of the laboratory.

RESEARCH

The Alma Ata report¹⁷ on primary health care emphasized research and evaluation by those providing the service, those using the service and those responsible for managerial and technical control at various levels of the health system.

For many years to come, solutions to medical problems in developing countries will come from the results of clinical research. Clinical research should be the product of rendering efficient medical services in both curative and preventive fields. It is while offering these services that problems arise and solutions are formulated and executed to deal with them. The analyses of the results of tested solutions constitute research. Both negative and positive outcomes are of vital importance for they may provide the fitting piece in a difficult jigsaw puzzle. Surgical research is not an exception to this modus operandi. The goal of research, as always, is to increase the body of knowledge for the benefit of mankind.

Regular reviews and auditing of the surgical problems encountered and the results of tested solutions have produced publications that document the incidence and pattern of diseases, the modifications in the management of patients occasioned by their poverty, ignorance, costly and inadequate transportation and the activities of the ubiquitous traditional healers.¹⁸

While the non availability of modern technology has limited the scope of research, it is still possible to conduct appropriate, 'low-tech', and relevant research that is subject to an excellent study design, proper controls, and scientifically valid interpretations.¹⁹ As a matter of fact, over the last 50 years many more major advances have been made in medicine by simple observation than by all the current molecular techniques put together.²⁰

Research in private practice is carried out in an environment devoid of the 'publish or perish' syndrome that prevails in the ivory towers.

Modifications of standard surgical techniques devised to suit the patients presenting very late in the hospital include gastric drainage feeding in gastrojejunostomy for gastric outlet obstruction due to chronic duodenal ulcer²¹ and the use of Malament stitch²², a removable purse-string suture at the bladder neck, which has made the performance of prostatectomy possible at the district hospital level with only 2% autotransfusion rate.²³

Other important research findings are:

1. the incidence of ruptured ectopic pregnancy is low in Ibarapa' community (which has the highest twinning rate in the world - 40/1000 live births)²⁴ because the incidence of pelvic inflammatory disease, a major predisposing factor, is also low;¹⁴
2. outpatient groin herniorrhaphy (including simultaneous bilateral) under spinal anaesthesia is safe in a rural community¹¹.

At present, we are collating data that show that the high twinning rate in Ibarapa is due to environmental factors as both the indigenes and non indigenes have the propensity for bearing twins.

CONCLUSION

The overall benefits of providing this comprehensive health service in a rural area include:

- a. surgical care is brought to the doorsteps of the populace,
- b. social stability is enhanced,
- c. medical bills and risks involved in travelling to tertiary centers for care are reduced, and
- d. job opportunities for members of the health team and the supporting professions.

Above all, it brings immense satisfaction to the health providers working amongst the poor rural majority.

Mr President, distinguished members of the Ophthalmological Society of Nigeria, as my teacher, Professor OO Ajayi expressed it, the challenge we face is how this innovative spirit and the sense of community commitment will be passed on to younger generations.²⁵

I thank you all for your audience.

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