



Rising up to the challenge in Plastic Surgery in Nigeria.

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Professor J.O. Oluwasanmi's Presidential Lecture delivered on 29 August, 2012 at the 18 Scientific Conference of the Nigerian Association of Plastic, Reconstructive and Aesthetic Surgeons' held at Ilorin, Nigeria.

Summary

Introduction: The environment for the practice of Plastic Surgery in Nigeria has become increasingly challenging. This has motivated the thoughts that have been put together in this lecture which was delivered in honour of the first indigenous plastic surgeon in Nigeria.

Method and Results: Several issues that bother on challenges and how they have been coped with from mentorship through wound and keloid management, to setting up a free tissue transfer unit at Ibadan were discussed.

Conclusion: Although myriads of problems which include inadequate infrastructure and funding of tertiary health care abound in our society, plastic surgeons are challenged to rise up to the challenge of ensuring global best practices.

Introduction

Distinguished guests and colleagues, I feel honoured to deliver today's Presidential lecture on behalf of the Nigerian Association of Plastic, Reconstructive and Aesthetic Surgeons especially since this is the 1st real lecture named after the doyen and 1st Nigerian Plastic Surgeon. Professor Oluwasanmi was my teacher at Ibadan and he incidentally was the Head of Department when I was in the final year of Medical school. Between that time and my appointment as consultant plastic surgeon, the job that he resigned from 10 years earlier, I had two close encounters with him. The first was a close shave with failure at my final MB;BS examination in Surgery in 1979. I had examined a long case that had a hip pathology which it was known at that time that if you could meticulously go through the history and examination of an orthopaedic case, it was easy to impress the non-orthopaedic examiner and score a high mark. The opposite was the case for me when although I had gone through the motions, it was apparent to Professor Oluwasanmi that I was "cooking" up or working to the answer. This provided a tense scenario for which I took time to apologize towards the end of the 15 minute assessment and which precipitated further furore since he felt that being apologetic was not a good mark of integrity. I was however fortunate to recover with a compensatory performance at short cases. Please do not ask me how I got to know my marks.

The second encounter was on a positive note. Professor Oluwasanmi's kind remark about me was helpful in getting me a place in the Overseas Doctors' Training Scheme jointly sponsored by the Royal College of Surgeons of England and the British Association of Plastic Surgeons which took place first at Manor Hospital Nuneaton (which initially merged with the George Elliot Hospital but later moved to Coventry, West Midlands and at the Mersey Regional Burns and Plastic Surgery Centre in the UK.

Ladies and gentlemen, life is full of challenges. Such abound in these days in our society. Professor Oluwasanmi became the first indigenous Plastic Surgeon because he rose up to the challenge. Mr. Tempest's (his Consultant's) response to a referral to him shortly before returning to United Kingdom in 1964 was one of the things that prompted him to go abroad to specialize in plastic surgery. He obtained his FRCS in 1964 was appointed Senior Registrar in the Department of Surgery in the same year. He applied for a Smith and Nephews Fellowship to be spent in some plastic surgery units in the UK in 1965. In his recommendation letter, the then Head of Surgery, Professor V Anoma Ngu wrote that the adjudicators of the fellowship would be doing Nigeria an honour if he were given the chance to study abroad. The reply came within a few weeks and Professor Oluwasanmi shared the following year between the plastic surgery units at Broxburn, West Lothian; Glasgow, Scotland; under Mr. Wallace at Newcastle upon Tyne in North East England; at Hammersmith Hospital under Professor Calnan, and at East Grinstead.

The hard work of one year enabled Oluwasanmi to return as the first indigenous consultant plastic and maxillofacial surgeon being jointly appointed by the medical school at University of Ibadan, as a lecturer I, and the University College Hospital, Ibadan, in January 1967. During the civil war he was voluntarily appointed in 1968 as a Lieutenant Colonel to help in the management of war casualties at the mid-western front. He became a senior lecturer in 1970 and Professor with effect from October 1973. It may be noted that he had studied some aspects of transplant surgery at Boston, Massachusetts under a WHO scholarship. While there, he developed his thesis on keloid, which earned the Master of Surgery's degree of the University of London.

Residency supervision and mentorship

Two other notable mentors supported me, before I went for training in the United Kingdom. Professor Ope Adekunle, former Chief Medical Director at Lagos University Teaching Hospital encouraged me to commence study for the dissertation that I submitted to the National Postgraduate Medical College of Nigeria while Professor Sowemimo provided enabling environment for post part I training in Plastic Surgery. I was intrigued by his humility when he counselled me to go out there and learn more techniques and come back and teach them. Professor Toriola Solanke provided the push and boldness for me to present the keynote Eruchalu Memorial Lecture at the International College of Surgeons' (Nigerian chapter) meeting only in the first few years of my status as a consultant.

This brings me to the sub-topic of mentorship. Wright et al¹ in their study of what it means to supervise doctoral students came up with five qualitatively different conceptions of supervision which I will like to apply here. Indeed I want every trainer present here to decide which concept to identify with. The five concepts are: quality assurer, supportive guide, researcher trainer, mentor and knowledge enthusiast. By the time of spending three years post part I in Nigeria to realize that on getting to United Kingdom, I was just commencing real specialty training (despite the fact that I was supposed to have acquired enough stuff within those three years to sit the final examination) I made up my mind on which concept to adopt. There were several deficits in the rather scanty exposure at home and I made up my mind on assuming duties as a consultant after the additional four and a half years abroad to be somewhat better than a quality assurer. What does that connote? For a quality assurer, trainer ensures that resident completes the training at minimum timing, without fundamental flaws, through a fundamentalist and task oriented structured process that is built around a "clear plan"¹. Such approach serves to pull the resident through to achieve the standards of the examiners rather than the standards of the wider academic community. The concept of the supportive guide also focuses on the outcome at the minimum timing but he does so through nurturing, encouraging and supporting the candidate.

In contrast, the researcher trainer sees completion of the programme as not an end in itself but a beginning to an academic career. He seeks the outcome of a future independent researcher and sees residency as the beginning of a research training career. He is critical of the quality assurer or those that are too “prescriptive” in directing the student’s approach rather than approaching the supervision holistically as career training. A mentor views himself and the resident as partners on a journey towards insight in the specialty¹. The mentor utilizes the team approach to provide “morale and social support” and he leads by example. Unlike the researcher trainer, he coaches and guides rather than teaches and instructs. The knowledge enthusiast is characterized by a passion for seeking new knowledge and insight. His role is less directive than quality assurance and more encompassing than training. He moves beyond mentoring by challenging the student’s assumption in order to stimulate his thinking in new directions. He asks questions of instead of answering questions from residents and forces them out of their comfort zone by deliberately unsettling them. I think every senior person here has to make up his mind on what kind of trainer he would be henceforth.

Free tissue transfers

As I challenge my senior colleagues, I want to encourage the up and coming to do more than “prod along”. I make bold to say that things are a bit better now than what they were about 20 years ago. There are more grants and more opportunities to travel out for short term exposures, conferences, workshops, and these must be utilized. For example, all the plastic surgeons in this room have had some degree of training in micro-vascular surgery. Most times in our presentations we indict facilities and lack of personnel as reasons for not embarking on what should be the most appropriate procedure to fix a reconstructive challenge. Free tissue transfer rate at present in most units is zero per year despite the trainings received. I need to encourage the younger ones that you do not need to acquire a state of the art microscope to begin to perform. The challenge to commence free tissue transfers in Ibadan came up when a colleague’s wife needed one and we combed different medical supply shops in Ibadan to at least purchase those micro-instruments referred to as “ophthalmic instruments”. We utilized loupe magnification to anastomose vessels as small as 3 mm. diameter. Whereas we performed free tissue transfers more frequently and with greater success in the 90s, it has become obvious that we are now more often, having or giving reasons why we should not do one and of course attrition is catching on us. Indications abound in our clinics and among cases referred to us. Let us therefore brace up and rise up to the challenge. Most good things do not come so easy.

Collaborations

On database and multi-institutional collaboration, we need to work on the incidence and prevalence of diseases peculiar to plastic surgery. We do not have local figures on cranio-facial clefts particularly cleft lip and palate, traumas especially burns and skin malignancies. It is time for our association to work with other stakeholders through committees to provide these figures for future planning and for the world. In addition, consensus workshops in collaboration with Ministry of Health can come up with standards on management of conditions that are associated with the specialty.

While talking about collaborating with others, gown to town fora like this should be encouraged. We need to, through our hospital public relations offices, update the necessary authorities on the importance of trauma prevention especially burn and road traffic accidents. There is no doubt that driving on the road requires skill and proper law enforcement will drive in the right attitude to all road users.

On keloids

Genomic studies and issues of molecular biology have dominated advancement in the surgical sciences. These I believe will unravel the myriads of problems that were explained away as idiopathic when we were at undergraduate level. They will empower us better in tackling difficult cases like keloids. My advice therefore is for us to key in to

the various scientific experiments and also log in to help fill in the lacunae provided by researches that are rooted abroad. To make things easier for the oncoming generation, we may pull resources on common problems like keloid and proffer the way forward in treatment. In the 70s and 80s keloids were explained away as immune reaction to buried dermal substances. Intra-lesional excisions were probably rooted in this theory. Substances like sebaceous materials were implicated. We were not able to substantiate this through our case controlled study at Ibadan between 1987 and 1989. The attention was turned at the turn of this century to the genetic basis of keloid pathogenesis. This has followed on conflicting reports on the mode of heredity of disease. Bloom in 1956² in one of the largest pedigree reports on keloids that spanned five generations indicated an autosomal dominant mode while Omo-Dare³ reported an autosomal recessive mode in 1975. The genetic search is on-going. It should be noted however that majority of keloid formation is sporadic. It is pertinent to note that today's honouree's thesis for the Master of Surgery (now known as Doctor of Medicine) degree of University of London was on keloids. We should along with other health professionals like pharmacognocists look into the local cures like shea butter, cobra skin ointment and omega 3 fatty acids. Incidentally Datubo-Brown while on Commonwealth Scholarship at Birmingham characterized snake skin oil⁴ and left a vacuum which younger Plastic Surgeons like Dr. Olaitan are trying to unravel.

The hypothesis that links the propensity of inflammation and subsequent scarring in darker skinned individuals to the reduced levels of vitamin D-3 production in their skin⁵ is yet to be refuted. Hypertrophic scars and keloids develop as exuberant inflammatory response. This response has been related to vitamin D-3 which is a powerful anti-inflammatory agent⁶ that is manufactured in the skin. The production of vitamin D-3 is influenced by the amount of melanin and an increase in pigmentation has been shown to decrease the amount of vitamin D-3 synthesis in the skin⁷. Thus it is a fact that pigmented races have a predilection for developing keloids. If the hypothesis is true, then adequate levels of vitamin D-3 may result in an anti-inflammatory effect and play a role in decreasing scar formation⁵.

A workhorse in reconstruction

The antero-lateral thigh flap has been a work horse for reconstruction for over a decade. I mention it here to encourage colleagues to make use of it more frequently in tissue transfer. I must sound a note of caution however to prevent surgeons from going through a prolonged teething period. As a novice, I did not find the classical descriptions of the anatomy and the procedure for elevation to be entirely true. The best description that I have found so far is the account by Strauch and Yu⁸. The surface location of the pedicle is not in doubt. The flap is centered over the midpoint of a line between the anterior superior iliac spine and supero-lateral corner of the patella. Most of the skin vessels are located in the infero-lateral quadrant of a circle, 3 cm in radius, drawn centered at this midpoint. While elevating the flap, it is important to remember that there are variations in the pattern of blood supply in:

- A. 57%, musculo-cutaneous perforator from the descending branch of the Lateral Circumflex Femoral Artery (LCFA).
- B. 27%, musculo-cutaneous perforator from the transverse branch of the LCFA.
- C. 11%, septocutaneous perforators from the descending branch of LCFA
- D. 5%, septocutaneous perforators from the transverse branch of LCFA

Wound care

The story of the honey bee cannot be complete without familiarizing ourselves with Spencer-Efem's publication on susceptibility of bacteria to honey in the 80s plus our evidence based reports at Ibadan just prior to that publication. Since then, practically all burn wounds and most wounds at least at Ibadan had had a taste of honey. I wish to warn here that not all wounds require honey and certainly honey is not as efficacious as silver preparations like silver sulphadiazine and Acticoat which contains nanocrystalline

silver that slowly releases silver into the wound. It is important to manage wounds particularly chronic wounds from a holistic point of view using the mnemonic IAP:

- Identify and treat the cause
- Address patient-centered concerns
- Provide local wound care

Several patient-centered concerns are often overlooked by the local wound therapist. Such include: pain, anxiety/distress/depression, social isolation and work/walking concerns. The DIME concept of local wound care helps to structure and get the best into patient recovery. Several materials are now available in the market for wound management and in view of the “cash and carry” nature of our health sector we have devised a protocol, table 1, of offering the ideal materials to those that can afford whereas to the indigent the “less ideal” option still works reasonably well. This protocol was put together after the consensus workshop on the management of wounds held at Ibadan in January this year.

Table 1: University College Hospital, Ibadan – recommendations for treatment of chronic wounds.

	<i>Type of wound</i>	<i>Ideal dressing</i>	<i>Less ideal dressing (for patients who cannot afford the ideal)</i>
<i>C1</i>	<i>Flat, dry (re-epithelializing wound)</i>	Melolin, Mepitel, hydrocolloid like Granuflex	Non adherent dressing like Jelonet, Vaseline gauze covered with gauze, bandage or plaster
<i>C2</i>	<i>Flat, mild to moderate exuding (granulating) wound</i>	Alginate eg Kaltostat or Hydrocolloid eg Granuflex; May require secondary dressing eg Gamgee or Allewyn	Non adherent dressing like Jelonet, Vaseline gauze covered with gauze, Gamgee, bandage or plaster
<i>C3</i>	<i>Dry (too little moisture) wound</i>	Intrasite gel and cover with secondary dressing or Opsite	Moist saline or honey gauze
<i>C4</i>	<i>Wound with excessive granulation</i>	Haelan tape (a transparent tape impregnated with fludroxycortide (flurandrenolone); Foam dressing e.g. lyofoam;	Sofradex eye ointment; Terra-cortril (tetracycline and hydrocortisone) ointment; Silver nitrate stick
<i>C5</i>	<i>Necrotic and or sloughy wound</i>	Surgical debridement or Intrasite gel or cross hatch eschar and apply enzymatic debrider and place a secondary dressing over	Honey gauze dressing
<i>C6</i>	<i>Wound with deep cavity like some pressure sores</i>	Silastic foam (Cavi-care); negative pressure wound therapy	Honey gauze loose packing
<i>C7</i>	<i>Chronic ulcer with critical colonization</i>	Iodosorb, Inadine and cover with secondary dressing like Gamgee or Allewyn	Bactigras, Sofratulle or honey gauze or silver sulphadiazine (Flamazine, Bactrazine) or Mupirocin (for mild to moderate sized wound) covered with gauze, Gamgee, bandage or plaster
<i>C8</i>	<i>Chronic ulcer with infection</i>	Iodosorb, Inadine or Acticoat and cover with secondary dressing like Gamgee or Allewyn	Silver sulphadiazine (Flamazine, Dermazine, Bactrazine) or Mupirocin (for mild to moderate sized wound) covered with gauze, Gamgee, bandage or plaster

Challenges of cancer reconstruction in Nigeria

Finally, I must chip in a word on the theme of this year's conference: Challenges of Cancer Reconstruction in Nigeria. There is no doubt that prevention; screening and early diagnosis provide for successful cancer therapy along with the desirable reconstruction required for cosmetic and functional rehabilitation. For example, breast conserving approaches have been developed in the last three decades with the objective of maintaining the natural appearance of the breast and preserving the overlying skin while making efforts to avert local recurrence⁹. Our local culture will buy into this since it precludes the loss of whole breast. Adequate public health education to screen patients and get them treated early will see more patients presenting for oncoplastic surgery and those that present later but not too late may have their breast reconstruction.

The major challenge of cancer reconstruction in Nigeria is the very late presentation/referral of cases coupled with the management of cases by quacks and cases that should have been referred by less qualified practitioners. This produces attendant poor outcomes and complications¹⁰. When the patient presents late, "straight forward" simpler reconstruction cannot be performed and the surgeon has to resort to the more complex procedure that demands more elaborate investigation, advanced anaesthesia and instrumentation and a funding which the patient often cannot afford. Opara and Jiburum in their review of skin cancers in albinos indicated that with these patients presenting late, defects following resection were usually complex and affected multiple aesthetic units and or major proportions of single aesthetic units. Reconstruction was therefore often complex and multi-staged. This on a background of poverty and scarcity of treatment funds posed a further challenge to patient care as a significant number of patients were unable to complete treatment due to lack of funds¹¹.

Interdisciplinary approach to cancer therapy while ensuring various modalities of treatment will provide for example for adequate extirpation of tumour. The resecting surgeon will excise the tumour with safe margin without limitations and the reconstructive surgeon, armed with the full fledge of possibilities; will have no problems in providing adequate cover. This combined method improves survival by limiting local recurrence.

At the technical end, provision and maintenance of infrastructure, necessary equipment and training of personnel including specialty nurses and technicians will provide the necessary back-up. This can be obtained only in an atmosphere of prioritisation of the tertiary health care sector.

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