

LAPAROSCOPIC SURGERY:

An Esoteric Hitech Procedure of Little Relevance to Present Day Nigeria?

By

O.O. Akute,

Mr. O.O. Akute, FRCS, is a Consultant General Surgeon in the Dept. of Surgery, University College Hospital, Ibadan, Nigeria.

SUMMARY

Laparoscopic Surgery has been rightly described as the "dawn of a new era" in surgery. It has come to stay and has altered permanently the practice and teaching of surgery as we used to know it. It is not about "new gadgets" but a new way of practicing an old art surgery.

The surgical world has moved on and Nigeria can either join the train or be left behind. The question for Nigeria is not "To be or not to be". It how many center(s) can the country afford to set up and maintain.

INTRODUCTION AND BRIEF HISTORY

The literature is full of "me first" in laparoscopic surgery but it is now acknowledged that the first reported (in a peer review journal) laparoscopic cholecystectomy (LC) was by a German Surgeon, Muehe in 1986, then Phillip Mouret 1987 (made an unpublished claim), McKerman 1988, Dubois 1989 and Perissat 1990. Several others soon followed but Semm, a Gynaecologist who performed the first laparoscopic appendicectomy in 1976^{1a}, preceded all these efforts.

Laparoscopy (Celioscopy, Peritoneoscopy) itself, which is an examination of the peritoneal cavity and its viscera by an endoscope dated back to 1910 when Jacobaeus used a cystoscope to examine the abdomen and coined the word "Laparoscopy". Kalk (1955, 1961) designed a laparoscope the prototype of those used today. Gynaecologists soon took advantage of this new procedure for diagnosis and treatment of gynaecological pathologies. Their successes re-awakened interest among hepatologists and other General Surgeons who started using it primarily for diagnosis and pre-operative evaluation of abdominal disorders^{1b}. The successful performance of the first laparoscopic cholecystectomy added a therapeutic dimension and thus began "the dawn of the new era in Surgery"² and the revolution is still unfolding.

The various synonyms (Minimally invasive surgery, Endoscopic surgery, Keyhole surgery, Minimal Access surgery) in the literature attest to the controversy about the appropriate terminology for this new technique. The surgical world, however, appears to have settled for "Minimal Access Surgery" as argued by Cuschieri³ one of the pioneers of the procedure in Britain.

This procedure has changed the practice of surgery, as we know it and has crossed all traditional boundaries of specialities and

Correspondence to: Mr. O.O. Akute, Dept. Of Surgery, University College Hospitals P.M.B 5116, Ibadan, Nigeria.

disciplines in surgery. We now have Laparoscopy, Thoracoscopy, Endoluminal Endoscopy, Periviscera Endoscopy, Arthroscopy and Intra-Articular Joint Surgery -- atimes, a combined approach.

LAPAROSCOPIC SURGERY

The basic procedure here is that the peritoneal cavity is insufflated with carbon dioxide (CO₂) and a rigid telescope (the laparoscope) with an attached camera is introduced into the abdominal cavity to visualize and relay procedures from same to a TV screen (monitor(s) with magnified views. Operating instruments are then introduced through other surgi-pots to perform the operation⁴. The basic technique is now detailed in many articles and in standard textbooks^{1a,5&6}.

A little comment about the insufflating gas is appropriate. Carbon dioxide (CO₂) is the choice gas at the moment, especially for therapeutic laparoscopy when electrocautery will be used. It is rapidly absorbed in the tissues and non-combustible. Its draw backs include hypercarbia (which may lead to dangerous tachy-arrhythmias especially in patients with myocardial dysfunction) and irritant effect on the peritoneum. It is therefore important to monitor the arterial blood gases.

Nitrous oxide (N₂O) has also been found suitable. It is reasonably well absorbed in the tissues and no cardiac or ventilatory problems have been reported. It is however, combustible and therefore unsafe when diathermy is contemplated. These two gases (CO₂ and N₂O) require special devices for delivery to regulate flow rate, volume and intra-abdominal pressure. Room air was first used and is cheaply delivered with a sphygmomanometer bulb attached to the veress needle or (canula in the open

method) used for creating the pneumoperitoneum. There were however reports of air embolism, pneumo-mediastinum and pneumopericardium. This led to the search for safer alternative that yielded the above. Attempts to discard the use of gas is on-going⁷.

The procedure that opened the flood gate for laparoscopic surgery is cholecystectomy. Efforts are now in progress to do virtually all-surgical procedures laparoscopically^{8 & 9}. There is even now video assisted and scarless thyroidectomy^{10,11}. I will think the other way forward on goitre treatment is to find a way to dissolve the gland, in particular the giant ones, and thereafter suck and evacuate same. Whatever the future direction on this, it is imperative to take consent for both laparoscopic and open methods in case there is need for conversion. Fortunately except for minor details, the surgical dissection follows the same standard pattern except for the minimal access in laparoscopic surgery. It is important also that the pre-operative work-up for the patient is no less rigorous.

The contra-indications are virtually reduced to a corporal's guard as experience is garnered in this new technique.

A D V A N T A G E S A N D DISADVANTAGES/COMPLICATIONS

These are now well documented in the literature^{1a, 10,11,12,13&14}. The cost implication in our setting has also been itemized in a previous communication¹⁵. The minimal access to target organs has reduced considerably the morbidity and resultant mortality associated with big open wound, not to talk of the cosmetics that also makes the technique quite attractive to both men and women alike. The patient leaves the hospital in a day or two and is back to work in a week. Here lies the danger, the attending Physicians and paramedical staff may be lulled into a false sense of security and devote less attention to the pre-and post-operative care of

the patient. It should be emphasized once more that the main difference is the minimal access in laparoscopic surgery as opposed to open surgery and therefore the pre- and post-operative care of the patient must be as thorough if not more than the open surgery.

TRAINING

There is no point belabouring this aspect also. It is self-evident and is emphasized in various reports on the subject^{1a&15}. The training is not only for doctors but also for nurses and technicians who will man the equipments. There is a crying need for proper development of middle level manpower in our society to man the various electro-mechanical equipments that are basic to the smooth running of a modern society.

IMPLICATIONS FOR OUR ENVIRONMENT

To be or not to be? I do not think there should be any debate as to the desirability of a laparoscopic set up in this vast land; the question should be in how many center(s)?

Not quite a few colleagues and friends have asked me about the relevance of the new "gadgets" in our environment with unresolved basic medical problems (-typhoid, malaria, etc) rudimentary and/or collapsing basic infrastructure. Whilst I share their concern, I do not share their myopia.

1. If all advances, new innovations and discovery have to wait until all basic human problems are solved, there will be no progress.
2. Nobody is arguing against computer in this country where illiteracy rate in the basic 3Rs is probably greater than 50%.
3. When the Indians joined the space

exploration race, sceptics and cynics all over the world wondered why a starving nation then, should indulge in such a luxury but today the world is wiser.

4. This is a rapidly evolving field with rooms for further contribution of ideas and innovations. It will be unfortunate if, as usual, we leave all the initiatives to others only to come in at the deep end as mere observer and novice when all is cut and dried.
5. Our people are aware that this facility exists and trust our Government officials to jet out at public expense for the new procedure and thus further compound our foreign exchange woes.
6. Quite a few Nigerian women have gone for laparoscopic cholecystectomy returning home with the complications and expecting competent management of same by their local doctors.
7. Above all, surgery as we know it has changed and the medical world has moved on regardless of what we think. We can decide, as usual, to be bystanders and watch or join the train. I argue for the latter.

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