EDITORIAL

Expanding laparoscopic urology in sub-Saharan Africa

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Introduction

Currently, urology practice is dominated by many minimally invasive techniques in endourology and laparoscopic urology. Reduced blood loss, less requirement for analgesia, decreased wound complications, early mobilisation, reduced length of hospital stay; and early return to work are some benefits of minimally invasive surgery.[1,2]

Since the beginning of the 20th century, surgeons have promoted laparoscopy as a valuable adjunct to diagnosing and treating diseases of the abdominal cavity.[3] Jacobbeaus experimented with laparoscopy in humans in 1911, but laparoscopy failed to become popular until Muhe performed the first laparoscopic cholecystectomy in 1985. Laparoscopy is now used worldwide and in all major fields of surgery, resulting in changes in training programmes to assure quality control and patient safety.[3,4]

Perhaps in no other surgical subspecialty have these advances been more prevalent than in urology. The list of procedures that are now performed laparoscopically spans the entire spectrum of urology, including diagnostics, cancer staging, surgical excision and reconstruction. Open surgical procedures, which were hitherto recognised as the "gold standards" of practice, are being replaced by laparoscopic procedures that promise equivalent success rates with the added benefits of reduced postoperative pain, short hospital stay, and early return to full activity.[4]

However, despite these benefits, the progress and acceptance of minimally invasive techniques, especially laparoscopy, have remained slow in sub-Saharan Africa (SSA). Most hospitals in SSA are poorly equipped and minimally invasive diagnostic and therapeutic procedures are mostly unavailable.

This editorial highlights the problem and recommends ways of expanding the use of laparoscopy in urology practice in SSA.

Discussion

Despite being an ancient surgical speciality, modern urology is technology driven and has quickly taken up new minimally invasive surgical challenges. In the developed world, the proliferation of endourology and laparoscopic urology or robot-assisted laparoscopic urology has resulted in even fewer open urological procedures. Laparoscopy is now the standard approach for procedures such as nephrectomy, pyeloplasty and radical prostatectomy.[5-7] Robot-assisted radical prostatectomy (RARP), for example, has become the standard of surgical management, with > 85% of radical prostatectomies in the United States performed with robotic assistance. However, in SSA, urology practice is generally not well advanced. Laparoscopic or robot-assisted laparoscopic urology is still not widely available in SSA.

Perhaps, the main reason for the relative unavailability of laparoscopy in urology practice in SSA is the high equipment cost. Despite the benefits, laparoscopic surgery is not considered an essential skill in SSA as governments ration specialised services to promote primary health care.[8,9] Hence tertiary (academic) training hospitals cannot obtain government financial support to establish and maintain minimally invasive technology. The unavailability of laparoscopic equipment in training centres prevents laparoscopic surgeries from being performed and limits the exposure of urology residents to these techniques. Laparoscopic training during residency has been shown to increase the likelihood of performance of laparoscopic surgery in subsequent practice. Resident training in laparoscopic urologic surgery in the United States results in 69% of urologists performing laparoscopic procedures after training as compared to 34% of those who have not had laparoscopic training during residency.[10]. The curriculum for training urology residents in SSA normally includes training in laparoscopy; however, due to the unavailability of equipment, these objectives are usually not realised.

A lack of skilled instructors further impedes any teaching of laparoscopic skills to residents. It may be helpful to train practising urologists on basic laparoscopy and commonly performed laparoscopic urology procedures. The training of practising urologists can be achieved by organising training workshops for them or, if possible, supporting them to go for mini fellowships in

high-volume training centres. Intensified training in the form of a mini fellowship is probably a better way to get urologists to start performing laparoscopic procedures.[11]

Developed countries have traditionally supported healthcare provision and training in SSA by funding health programmes and training specialists in the donor country. However, donor countries now focus mainly on primary health programmes at the expense of specialised care. Because governments in SSA and their donor partners seem unwilling to prioritise specialist care, national and international professional bodies with interest in specialised medical practice may have major roles to play. In the case of urology, national urological associations and even international professional bodies such as the Pan African Urological Surgeons Association (PAUSA) have significant roles in improving urology services in SSA. These bodies can facilitate the establishment of post-fellowship training scholarships with sister bodies, colleges and institutions in developed countries for mini-fellowships by their locally trained urologists. This will help to expose the locally trained urologists to the newest advances in urology practice and facilitate the gradual introduction of these services to SSA. For example, the Ghana College of Surgeons is collaborating with Ghanaian surgeons practising in the United States to help advance surgical practice in Ghana by facilitating advanced surgical training in Ghana and abroad for Ghanaian surgeons. Similarly, a collaboration between the Ghana Association of Urological Surgeons and Ghanaian urologists practising in developed countries and with sister organisations like the American Urology Association would not only promote laparoscopic urology but will also be helpful in advancing the scope of urology practice in the country. This is one option that needs to be explored by urologists practising in SSA in order to improve standards in their countries.

The lack of patient demand for laparoscopic procedures also contributes to the slow development of laparoscopy in SSA. However, with the current globalisation trends, more urology patients will know about the availability of laparoscopic options and will request it. This should motivate private urology hospitals in SSA to invest in laparoscopic urologic surgery by investing in the training of urologists and in procuring laparoscopic equipment for their facilities. In Nigeria, for example, the only centre currently offering laparoscopic prostatectomy is a private facility.[12] In Ghana, a private medical facility, Lucca Health Advanced Medical Center is leading the way with minimally invasive urology and general surgery services.[13] Given that there is limited funding for teaching facilities by the government, private urologic practice is probably the best platform to provide laparoscopic urology services once urologists become more familiar with it. In SSA, private-practice urology serves a higher socioeconomic group, usually the patients who can afford the service and who also present with earlier-stage diseases suitable for laparoscopic intervention.

Another innovative way of promoting laparoscopy across SSA will be to develop similar technology that is equally effective but more affordable for use in SSA. This may require extensive collaboration between the medical society and biomedical engineers to develop home-grown technology fit for purpose. In this regard, discussions have been held to develop technology to provide a simple, safe, and sustainable way of performing laparoscopic surgery in developing countries.[14] This opportunity needs to be explored further to promote laparoscopy in urology practice across SSA.

Conclusion

The race to advance the practice of urology in SSA and especially to expand laparoscopic urology across the region requires a concerted effort. Urologists, national and international urology associations, postgraduate medical training institutions, private urology hospitals in the region and African urologists practising in developed countries must play their respective roles in realising this objective.

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