

Minimally Invasive Therapy for Cancer: It is Time to Take Actions for Training System in Minimally Invasive Therapy After LACC Report

“It’s a cliché that a dog bites a man. However, if a man bites a dog, it’s news!” Recently, Dr. Ramirez from MD Anderson Cancer Center has done comprehensive LACC studies on cervical cancer with the support from multicenters in different countries.^[1] He has found out that the conceptions of minimally invasive therapy (MIT) for cervical cancer is not the same as those in our study and recent research.^[2-10] Dr. Walker’s LAP2 study in 2009 reveals that laparoscopic-assisted staging surgery for endometrial cancer has the same 5-year survival rate as laparotomy. In comparison with laparotomy, laparoscopic-assisted staging surgery for endometrial cancer has much lower hospitalization time, blood loss, and comorbidities. Hence, in 2014, the American College of Obstetrics and Gynecology suggested MIT for endometrial cancer is the standard way and has imperceptibly influenced surgeons to apply laparoscopic-assisted staging surgery for endometrial cancer in the United States and worldwide. Studies have shown that the proportion of MIT for endometrial cancer has increased from 24% in 2008 to 71.4% now. Moreover, it had boosted from 5% to 95% in Denmark from 2005 to 2015.

Ramirez *et al.* published the study on cervical cancer in N Engl J Med where has caused man-bites-dog effects in Gynecology.^[1] The research produced some rather unexpected results.

First, it is simpler to carry out randomized, double-blind clinical trials for internal medical cancer, whereas more confounding factors are taken into consideration in clinical trials for new types of cancer surgery. Those factors, accuracy (pathological diagnosis after surgery) and especially techniques (the skill and maturity in performing surgical procedures) have played important roles in research. That is the reason why the bias is inevitably shown in surgical trials.

Above mentioned, the most outstanding cancer research in Obstetrics and Gynecology is the LAP2 laparoscopic-assisted staging surgery for endometrial cancer study;^[3] it is a randomized study with the use of laparoscopy or laparotomy, the research results show the laparoscopic-assisted staging surgery for endometrial cancer is the same rate: 89.8% as the 5-year survival rate for laparotomy. However, under laparoscopic-assisted staging surgery for endometrial cancer operation, there are 25.8% of the patients demand to convert to laparotomy due to blood loss, lack of technical skills, or the breakdown of equipment. Nevertheless, there were many doctors who specialized in laparoscopy with insufficient skills performing surgical procedures; the final average survival rate remained the same. Nonetheless, laparoscopic-assisted staging surgery for endometrial cancer had a markedly shorter length of hospital stay and with less postoperative



Figure 1: Professor Chyi-Long Lee discussed the blind spots of LACC study at the 19th Asia-Pacific Association for Gynecologic Endoscopy and Minimally Invasive Therapy Annual Congress held in Surabaya, Indonesia



Figure 2: Professor Chyi-Long Lee delivered a speech on minimally invasive therapy and emphasized training and accreditation are the most important factors in the LACC study at Asia-Pacific Association for Gynecologic Endoscopy Annual Congress

comorbidities than laparotomy. For that reason, the American College of Obstetrics and Gynecology recommends surgeons use MIT as much as possible to treat endometrial cancer.

Hence, this is the simplest method applying to laparoscopic surgeries in cancer in Gynecology. Among surgeons with insufficient professional training, one out of four patients who go through laparoscopic-assisted staging surgery for endometrial cancer will need laparotomy in LAP2 study. Because of some technical reasons, patients with the conversion to laparotomy remain the same overall survival rate as 89.8%. Affiliated with a MIT center, Chang Gung Memorial Hospital shows that its survival rate could reach up to 98%.^[10] Furthermore, there is no case requiring to be converted to laparotomy. Hence, it is well known that surgical techniques for laparoscopic-assisted staging surgery for endometrial cancer bring diversity, so it should be taken caution while comparing. It is predictable that if these unnecessary technical failures are eliminated, the survival rate of laparoscopic-assisted staging surgery for endometrial cancer and laparotomy cannot be equal in the GOG LAP2 study. The efficacy of minimally invasive surgery has remarkable results and is similar to this study. Therefore, the most important aspect of a surgical clinical trial should be performed by competent doctors.

Relevantly with the LAP2 study, the comparison of this minimally invasive endometrial cancer lacks competent surgeons to handle the comparative clinical research. Such reports would produce man-bites-dog results.

The therapy for cervical cancer is twice more arduously to carry out than the therapy for endometrial cancer (if compare by the factor of operation time). Needless to say, other confounding factors are excluded in designing clinical trials and therefore, the publication of such study could only be regarded as an unsound argument or biased statistics.

Based on those countries such as Taiwan, Japan, and South Korea, who have advanced techniques on the minimally invasive treatment of Gynecologic Oncology, show relatively better results in minimally invasive treatment than laparotomy through retrospective studies by a single medical center. The results also prove that skilled physicians and good hospital care are the most influential variables in the outcome of treatment. Therefore, professional training, personal certification, and center accreditations are the most fundamental factors for MIT.

MIT is still the trend in gynecologic surgery. Minimally invasive treatment of cervical cancer has become the focal point of gynecologists, due to the recent studies and published reports. Somehow, some of the gynecologists try to prevent minimally invasive treatment instead of paying heed to the

whole study process and the blind spots of this surgical clinical trial. The consequence of the correct hypothesis by using the wrong research methods in the study could not get the correct results. Thus, it is worthless to follow the results of the LACC study.

The 19th Asia-Pacific Association for Gynecologic Endoscopy and MIT Annual Congress was held in Surabaya, Indonesia in 2018 [Figures 1 and 2]. It gathered thousands of minimally invasive professionals and experts to discuss the blind spots of this study. As a result, “training and accreditation are the essential foundation to MIT,” rather than regressing and sending the groundwork of surgical treatment back to 100 years ago.

Making a change is always a challenge. Laparoscopy is comparably young compared to laparotomy. This one finding should not banish previous studies that demonstrate possible advantages of laparoscopy. MIS, particularly laparoscopic radical hysterectomy should be kept going on.

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