

## Prof. Jang-Ming Lee: single-incision minimally invasive esophagectomy (MIE), better recovery for patients

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### Editor's note

Dr. Jang-Ming Lee (*Figure 1*) is not only a speaker but also a host for several presentations in the 16th annual meeting of Taiwan Association of Thoracic & Cardiovascular Surgery (TATCS), which was held on October 28 and 29 in Taipei. The topic he shared is “Per-oral endoscopic myotomy (POEM) for treating esophageal achalasia: the NTUH experience.” The POEM is a minimally invasive surgical procedure for the treatment of achalasia wherein the inner circular muscle layer of the lower esophageal sphincter is divided through a submucosal tunnel, which enables food and liquids to pass into the stomach that is impaired in achalasia (cited from Wikipedia).

AME Taipei Group had the honor to interview Dr. Jang-Ming Lee and let him share new techniques of esophagectomy operation, photodynamic therapy (PDT), the intention of the establishment of Taiwan Society for the Chest Care, and his personal habits (*Figure 2*).

### Personal information of Dr. Jang-Ming Lee

Dr. Jang-Ming Lee is an attending physician in the Department of Surgery, National Taiwan University Hospital. He is one of the important pioneers in the development of minimal invasive surgery in thoracic space in Asia. Besides, he is the CEO of “Taiwan Society for the Chest Care.” Now, he is deeply devoted to the development and education of minimally invasive thoracic surgery especially in the complex procedures including minimally invasive esophagectomy, robotic surgery or POEM.

### Interview (*Figure 3*)

**JTD:** *National Taiwan University Hospital invented single-incision minimally invasive esophagectomy (MIE), which is the world's pioneer. Can you talk about this operation?*

**Dr. Lee:** About 3 years ago, my team and I started this



**Figure 1** Personal photo of Dr. Jang-Ming Lee.

new surgical technique. At first, we encountered several difficulties. With the maturation of various thoracic procedures with single-port surgery, we think it may be feasible. We applied the new technique to a simple straightforward case, and fortunately the clinical result and the patient's outcome were quite satisfactory. So we decided to carry on this novel procedure. The clinical results of minimally invasive esophagectomy we acquired were good enough. Hence, we decided to popularize this procedure in our daily practice. Now the outcome of the new technique is comparable to the outcome of the traditional minimally invasive surgery, including patients' recovery and performance. Now we are quite confident in this technique. We have published the result in European medical journals and *Surgical Endoscopy*. I believe we are on the way to enhance patients' recovery after surgery. The results of the surgery confirm the feasibility of single-port surgery in both thoracic part and abdominal part. Surgery for esophageal cancer is very complex. Even though the reconstruction and minimal dissection are very complex, we still make it,



**Figure 2** Photo with Dr. Jang-Ming Lee after the interview.



**Figure 3** Interview with Prof. Jang-Ming Lee: single-incision minimally invasive esophagectomy (MIE), better recovery for patients (1).

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so the technique is possibly to be more and more popular in the future. Moreover, patients with esophageal cancer can be benefited from the improvement of our novel surgical technique.

Surgery is not a perfect treatment, because it makes great impact on patients, like the inconvenience brought by surgery and surgical trauma. For surgeons, we have the duty to improve this procedure to make the patient have the best chance of recovering. However, surgery with any novel technique must be balanced among safety, postoperative recovery and oncological outcome of the patients. The single-port MIE therefore requires close monitoring for

the long-term outcomes of patients with esophageal cancer after surgery.

*JTD: On lung cancer surgery, could you share the latest research progress to our audiences?*

**Dr. Lee:** Lung cancer surgery has been more advanced and changed a lot in these years. The mortality has decreased a lot because of the improvement in treatment. First of all, with the aids of CT screen, more patients who suffer lung cancer has been diagnosed and treated. Surgery plays a crucial and vital role in the treatment for early stage lung cancer. Second, there is advance in multiple oncology therapy fields, including targeted therapy, immunotherapy and chemotherapy. The patients have more chances to survive longer with these treatments even if they are in advanced stage. Our institute has some novelty in the treatment of lung cancer in surgery, including for the early stage patients and advanced stage patients.

For patients in early stage, performing minimally invasive surgery would be a trend because it is very effective. Speaking of minimally invasive surgery, doctors have to strike a balance between minimizing the decision and appropriate resection extent. The goal of the treatment is to cure patients. We have used intra-operative CT localization and the navigation system like magnetic endoscopic navigation to localize the tumor during the surgery. For the next step, we may apply this novel treatment into intervention treatment for patients in early stage lung cancer. For patients in advanced stage, we have adopted robotic surgery for these complex procedures. Robotic surgery is an option for minimally invasive thoracic surgery, but it can also provide precise and delicate dissection and tissue manipulation during the surgery. We have published the results of complex procedures such as sleeve resection of tumor in dense adhesions, difficultly located tumor, or huge tumor in deep location.

The complex procedure may be useful in the future. Most important of all, I want to encourage young surgeons to keep his mind open to all these procedures even though there are still some disadvantages in the beginning. Surgeons have to make themselves familiar with the technique. Only if you are familiar with the technique, you can know the limitation. I think robots can't replace all the procedures in the future. But they can play a role in treating certain advanced stage cancer or certain disease patterns of

the patient in the future, especially in the thoracic surgery.

For patients in advanced stage, we have applied photodynamic therapy (PDT) to treat patients with pleural diseases and pleural dissemination. It is a pity that patients with this localized disease cannot be cured with modern treatment like target therapy, chemotherapy, or surgical resection. These treatments cannot solve the problem of recurrence. For this kind of patient, we have performed multimodality treatments, including chemotherapy, target therapy, radical lymph node dissection and tumor resection for the maximum removal of pleural nodule. In conjunction with PDT, we found it is very effective to locally control the disease. Besides, patients could survive longer. Based on our preliminary data, patients having 5-year survival time can reach as high as 50% and we still move on. In these years, we have been treating more patients with PDT and the data of survival rate is quite stable. We have already presented this achievement in the annual meeting of World Conference on Lung Cancer (WCLC) which was held in Yokohama in 2017. The survival data is the same as the data we got two years ago, so the data is quite convincing. With the Photodynamic therapy, radical resection, and multimodality treatments, patients can be given with the better chance to have longer survival time in the future.

**JTD:** *“Taiwan Society for the Chest Care”, the organization you established a few years ago, can you talk about it and share some touching moments with us?*

Dr. Lee: For me, the care of patients after surgery is not just work. I enjoy interacting with patients because my job is not just performing surgery and giving medicine to patients. Taiwan Society for the Chest Care provides a platform. I like to communicate with several friends from different fields. I enjoy having communication with patients when they try to connect with me, whether in the clinic or in the ordinary situation. To some extent, I found patients' diseases may represent their habits of lives which not only lead to their diseases but also some social problems, including diet and life styles.

To deal with these problems, Taiwan Society for the Chest Care was founded to solve patients' problems other than diseases. We should care other aspects of patients, such as economy, social relationship, or patient education. This can not only help patients but provide a good platform for me to have real communication with patients.

Nowadays, because the surgical outcomes are much better than previous surgeries, both lung cancer patients and

esophageal cancer patients can survive longer than before. After the surgery, patients need to make a return visit and some of them become my good friends. I feel funny because after one surgery, I become a family doctor for patients and their family. They will ask for my help for physical or even psychological problems.” But I don't have so much time to solve their every problem. Thanks to my colleagues, they have helped me handle so many things and let patients have normal lives.

I'd like to share one of the stories of my patient who had esophageal cancer. He was very depressed because he thought his life span was very limited and would pass away in the near future. After treatment, nothing bad happened and he could live for a long time. Though the result was good, he was still very dismal. Therefore, I encouraged him to go out to have a walk and live like a normal person. Gradually, he accepted my suggestion and went back to his work in the end. One day, he came back and bought some food for me, saying, “If without your encouragement, I would not have had the confidence to go outside and earn money after recovering from cancer.” I was impressed and touched.

Though dealing with business of the association occupies my time after work, it's worthwhile. The association helps and cares patients. Also, the association makes us regulate patient education. We not only teach patients how to take medicine, but also how to exercise, how to have a diet, how to live, how to control emotions. It helps patients and enhances the relationship between patients and doctors.

**JTD:** *Even in such busy schedule, you still keep your regular exercise habit? Is there any particular reason and how do you arrange your time?*

**Dr. Lee:** I graduated from Jianguo Senior High School which is located in Taipei City. Many teachers of Jianguo Senior High School at that time came from Mainland China. There were very traditional, just like Confucius. I called one of my teachers “Lao Fu Zhi,” which refers to an old scholar. I enjoyed learning from him because he gave very traditional Chinese education. He influenced me a lot. I played some traditional Chinese exercises, such as “Tai Chi Chuan” and “Kung Fu.” Traditional concepts, such as “Tai Chi” and “Book of Change” are included in these exercises. They are the crystal of the wisdom. Playing “Tai Chi Chuan” gives me a chance to understand traditional education and philosophy.

Learning philosophy could change our physical

conditions, emotions, and mental statuses. Since I was a high school student, I have played Tai Chi Chuan. During my university and work period, I met a lot of Kung Fu masters. They also taught me a lot of things, which opened the door of the world and let me see the different aspects of the world. This is why I keep exercising. For me, it is not only an exercise, but also an understanding of traditional concept and philosophy.

**JTD:** *With so many interviews, is there anything you would like to say but never been asked before?*

**Dr. Lee:** People usually ask me how I treat diseases and how I handle difficult situations. How to treat disease is about work, but how to handle some difficult situations is about life. This is why I always encourage my students to keep open-minded, not just in medicine, but also in other fields.

For a surgeon, the most important thing is to have fully-qualified surgical skills and medical knowledge. It is a surgeon's duty to solve patients' most serious problems. Even if having great ability, a surgeon should not be complacent. A good surgeon should always make some progress, which will let him/her see the diverse levels of life. Sometimes, I talk about philosophy and traditional concepts with my friends. I am very interested in philosophy,

especially traditional philosophy, such as Taoism, Buddhism, Eastern philosophy. Though eastern and western philosophies have different styles, the final goal is the same: to have a happy life. To have a happy life, you have to have good physical condition and wealthy life. In addition to the material part, it is also important to be sufficient inside your heart, including the care of emotion. Thus, if I have a chance to have another interview, I would be very happy to talk more about philosophy.

### Acknowledgements

None.

### Footnote

*Conflicts of Interest:* The author has no conflicts of interest to declare.

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