

# New perspectives in multidisciplinary treatment of esophageal cancer: the “First East Asian Conference on Multidisciplinary Treatment of Esophageal Cancer” held in Chengdu, Sichuan Province

## Editorial Office

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## Editor's note

The First East Asian Conference on Multidisciplinary Treatment of Esophageal Cancer, hosted by the Chinese Society of Esophageal Cancer, Chinese Anti-Cancer Association (CACA-CSEC), and organized by the Western China Radiation Therapy Association of Sichuan Province and the Cancer Hospital Affiliate to University of Electronic Science and Technology of China (Sichuan Cancer Hospital & Institute), was held in Chengdu, the capital city of Sichuan Province, from 20 to 22 April, 2018. The meeting brought together top experts in esophageal cancer from China, Japan, etc. to share their experiences and insights on esophageal cancer management. Prof. Yongtao Han from Sichuan Cancer Hospital and Institute and Prof. Yin-Kai Chao from Chang Gung Memorial Hospital individually demonstrated the minimally invasive surgeries for esophageal cancer. The 3-day event was well attended and provided the audience with up-to-date information on the multidisciplinary treatment of esophageal cancer.

Prof. Yongtao Han (*Figure 1*), vice chairman of the CACA-CSEC, delivered a kick-off speech. He welcomed experts from home and abroad to attend this conference and hoped that such an event would facilitate academic exchanges and promote the standardization of multidisciplinary treatment for esophageal cancer in China.

Dr. Gang Liu (*Figure 2*), deputy director of the Cancer Hospital Affiliate to University of Electronic Science and Technology of China (Sichuan Cancer Hospital & Institute)



**Figure 1** Prof. Yongtao Han addressed the meeting.

expressed a warm welcome to all the attendees in his speech. He also hoped that this meeting would be a platform for exchange and mutual learning and gear up the development and application of multidisciplinary treatment of esophageal cancer.

Prof. Yousheng Mao (*Figure 3*), the elected chairman of CACA-CSEC, read out a letter of congratulations from Prof. Jie He, an academician of Chinese Academy of Sciences. According to Prof. He in his letter, esophageal cancer is highly prevalent in China, and its incidence and mortality ranks fifth and fourth, respectively, among all malignancies in China. Each year China's new esophageal cancer cases account for about 55% of the world's new esophageal cancer cases. The past years have witnessed China's great progress in the diagnosis and treatment of



Figure 2 Dr. Liu Gang, Deputy Director, addressed the meeting.



Figure 3 Prof. Yousheng Mao delivered a speech.



Figure 4 Speech by Prof. Zhentao Yu.

esophageal cancer, and multidisciplinary treatment and standardized treatment for esophageal cancer have become hot research topics. He hoped that this well-designed event would offer a unique chance for sharing novel and diverse knowledge and insights and for strengthening exchanges and cooperation between China and its neighboring countries and regions.

Prof. Zhentao Yu (*Figure 4*), chairman of CACA-

CSEC, said in his speech that Sichuan Province is a high-risk area for esophageal cancer, and the Department of Thoracic Surgery of the Cancer Hospital Affiliate to University of Electronic Science and Technology of China (Sichuan Cancer Hospital & Institute) has made great efforts in introducing minimally invasive treatment and multidisciplinary treatment for esophageal cancer and achieved remarkable results in recent years. This meeting was attended by many prestigious international experts and scholars, and their experience and insights in esophageal cancer management could be invaluable for all the delegates.

### Highlights of lectures

Prof. Zhentao Yu (*Figure 5A*) from the Cancer Hospital of Tianjin Medical University delivered a speech titled “Neoadjuvant Treatment of Esophageal Cancer in China: Review and Prospect”. Prof. Yu recalled the history of neoadjuvant treatment for esophageal cancer in China and concluded that, compared with other malignancies such as lung cancer, colorectal cancer, and breast cancer, esophageal cancer still faces many challenges in terms of high-quality clinical trials, technical progress, and basic research. Holding on to the past and the status quo, we should integrate the currently available resources and carry out in-depth systematic research. We should further investigate the populations most likely to benefit from neoadjuvant therapy, optimize the neoadjuvant therapies, and ensure the safety of neoadjuvant treatment, so as to truly deliver “precision medicine” in neoadjuvant treatment. Currently there are quite a few prospective multi-center clinical studies on the neoadjuvant chemotherapy of esophageal cancer, and the future in this field is quite promising. Although esophageal cancer research in China is still lagging behind, it has many advantages as a latecomer. While the development of translational medicine opens the door to high-precision treatment options in future neoadjuvant treatment, it also presents new challenges to clinical research designs.

In his lecture titled “Recent Advances in Treatment of Esophageal Cancer in Taiwan”, Prof. Jang-Ming Lee (*Figure 5B*) from the National Taiwan University College of Medicine introduced the prevalence, pathogenic factors, treatments of esophageal cancer in Taiwan and the future trends. The therapeutic principles for esophageal cancer in Taiwan are as follows: endoscopic or surgical treatment for stage I, surgical treatment (or in combination with radiochemotherapy) for stage II,



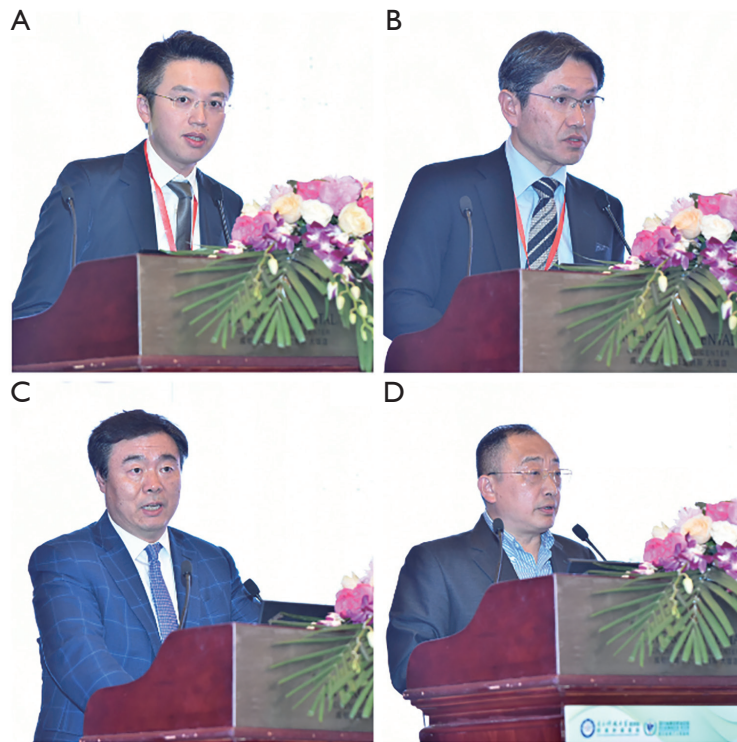
**Figure 5** (A) Prof. Zhentao Yu; (B) Prof. Jang-Ming Lee; (C) Prof. Yuji Tachimori; (D) Prof. Yousheng Mao.

surgery following preoperative radiochemotherapy for stage III, and radiochemotherapy or palliative treatment for stage IV. While surgical treatment and concurrent radiochemotherapy remain the mainstream treatments for esophageal cancer in Taiwan, the role of minimally invasive surgery has increasingly been recognized with the progress of minimally invasive techniques such as single-incision minimally invasive surgery and robotic surgery.

Prof. Yuji Tachimori (*Figure 5C*) from Kawasaki Saiwai Hospital, Japan, gave a lecture titled “Surgical Treatment with Three-field Lymph Node Dissection for Esophageal Cancer in Japan”. According to Prof. Tachimori, a multidisciplinary approach has been adopted in the surgical treatment of esophageal cancer in Japan: surgery is performed after preoperative treatment; or, remedial surgery is performed after organ-protective treatment. Preoperative neoadjuvant chemotherapy has become standard treatment for patients with stage II and III esophageal cancer. Three-field lymph node dissection is not routinely performed in all patients; rather, it depends on each patient’s specific condition and is based on the professional decision of the operator.

Prof. Yousheng Mao (*Figure 5D*) from the Cancer Hospital of the Chinese Academy of Medical Sciences introduced the completion of the “Pilot Study on Standardized Multidisciplinary Therapy for Esophageal Cancer Based on the Clinical Research Network Platform” and the future plan. The study included four topics: (I) randomized controlled study on the outcomes and prognosis of patients with upper mediastinal lymph node-negative esophageal cancer after surgeries via the left and right transthoracic approaches; (II) prospective comparisons of the outcomes and prognoses of esophageal cancer patients undergoing thoracoscopic laparoscopic minimally invasive radical resection versus conventional three-incision open radical treatment; (III) prospective randomized controlled trial of the outcomes and prognoses of two- and three-incision lymph node dissection in patients with cervical lymph node-negative thoracic esophageal cancer; and (IV) prospective randomized controlled trial of postoperative combined chemoradiotherapy versus radiotherapy alone in patients with lymph node-positive esophageal cancer following radical operation. Currently these studies are still underway and it is expected that their results will be





**Figure 6** (A) Prof. Yin-Kai Chao; (B) Prof. Hiroyuki Daiko; (C) Prof. Keneng Chen; (D) Prof. Tao Li.

available in the coming 3–5 years.

Prof. Yin-Kai Chao (*Figure 6A*) from Chang Gung Memorial Hospital, College of Medicine, Chang Gung University, Taoyuan, Taiwan, gave a lecture titled “Role of Esophageal Surgery in an Era of Radiotherapy and Chemotherapy”. Prof. Chao analyzed the necessity of surgical treatment for esophageal squamous epithelioma following induction radiotherapy and chemotherapy and the scope of lymph node dissection. According to Prof. Chao, while the role of surgeons may change in an era of radiotherapy and chemotherapy, surgeons still play a pivotal role in the treatment of esophageal cancer.

Prof. Hiroyuki Daiko (*Figure 6B*) from National Cancer Center Hospital of Japan shared his experiences in the “Neoadjuvant Treatment for Stages IB–III Esophageal Squamous Cell Carcinoma”. Prof. Daiko reviewed the development of multidisciplinary treatment of esophageal cancer in Japan. By presenting the recent findings in clinical studies, he concluded that docetaxel, cisplatin and fluorouracil (DCF) protocol, as a candidate neoadjuvant chemotherapy regimen, is highly efficient in treating stage III esophageal cancer.

The lecture given by Prof. Keneng Chen (*Figure 6C*)

from Peking University Cancer Hospital was “Long-term Survival of 1333 Surgically Treated Patients with Esophageal Carcinoma in North China: a Single Institutional Experience”, which offered the most up-to-date information in this area from a single center.

Prof. Tao Li (*Figure 6D*) from the Cancer Hospital Affiliate to University of Electronic Science and Technology of China (Sichuan Cancer Hospital & Institute) demonstrated the “Pre-operative Radiotherapy Strategies for Esophageal Cancer”. According to Prof. Li, special attention should be paid to the delineation of lymph nodes in a preoperative radiotherapy plan, especially for region 2 lymph nodes that are difficult to dissect during surgery; a higher dose of preoperative radiotherapy does not bring survival benefits; Either TP or PF regimen can be applied for preoperative concurrent chemoradiotherapy, and it has been proposed that TP may be superior to PF.

Prof. Po-Kuei Hsu (*Figure 7A*) from Taipei Veterans General Hospital presented a lecture titled “Research on the Multidisciplinary Treatment of Esophageal Carcinoma Based on the Taiwan Cancer Database”. In their study, the clinical data from a single center were validated with data in Taiwan Cancer Database. Their conclusions included:



**Figure 7** (A) Prof. Po-Kuei Hsu; (B) Prof. Yasuhiro Shirakawa; (C) Dr. Yan Zheng; (D) Prof. Yongtao Han.

surgery following preoperative chemoradiotherapy remains the standard treatment for locally advanced esophageal squamous cell carcinoma; for chemotherapy- and radiotherapy-naïve patients with clinically early but pathologically advanced cancer, postoperative radiochemotherapy may achieve similar efficacy.

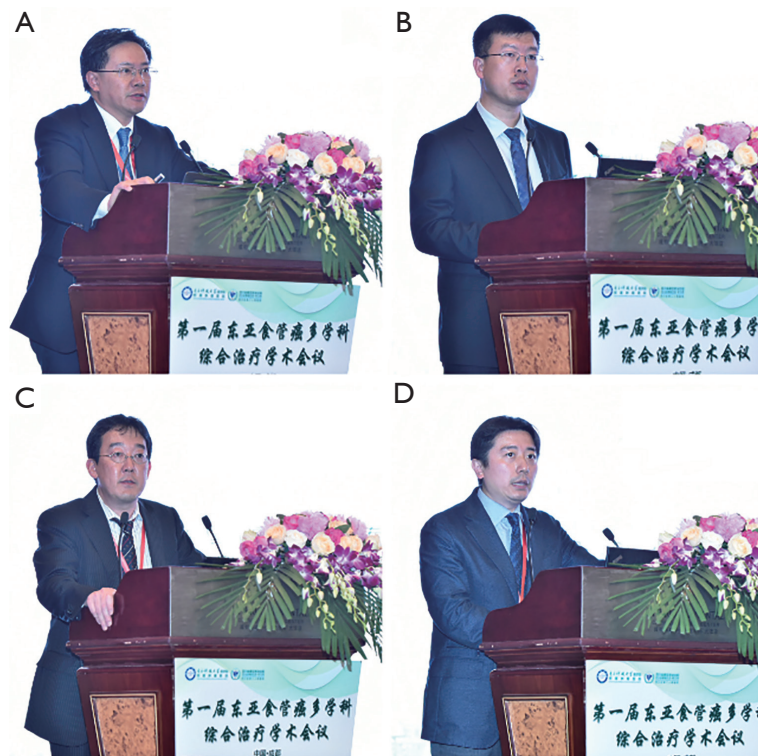
Prof. Yasuhiro Shirakawa (*Figure 7B*) from Okayama University of Japan explained in detail the “Microanatomical Criteria for Thoracoscopic Radical Treatment of Esophageal Cancer surgery” by interpreting the surgical videos. According to Prof. Shirakawa, the implementation of these microanatomical criteria has shortened thoracoscopic surgery and reduced postoperative complications. This new criterion will help improve the prognosis of esophageal cancer patients.

Dr. Yan Zheng (*Figure 7C*) from Henan Provincial Cancer Hospital gave a keynote report titled “Status Quo and Prospects of Multidisciplinary Treatment of Thoracic Esophageal Squamous Cell Carcinoma”. Dr. Zheng systematically reviewed the history of the multidisciplinary treatment for esophageal cancer and proposed that this strategy needs to be further standardized and tailored in future. She also hoped that a Chinese version of the

guidelines on esophageal cancer management, based on the principles of evidence-based medicine and the rich experiences in patient diagnosis and treatment, should be established.

Prof. Yongtao Han (*Figure 7D*) from Cancer Hospital Affiliate to University of Electronic Science and Technology of China (Sichuan Cancer Hospital & Institute) presented the “Clinical Practice of Y Staging of Esophageal Cancer” based on the patient data in his hospital. Prof. Han pointed out that currently most centers tend to apply neoadjuvant therapy in a passive manner; indeed, the application of neoadjuvant therapy should be standardized based on high-quality evidences. Since the benefits of neoadjuvant therapy have been well recognized, its risk should also be taken into consideration when establishing an optimal individualized treatment protocol.

Prof. Simon Law (*Figure 8A*) from the University of Hong Kong shared his experience in “Improving the Postoperative Efficacy of Minimally Invasive Surgical Treatment of Esophageal Cancer”. While the value of minimally invasive esophagectomy has been well recognized, which treatment is the best remains controversial. According to Prof. Law, minimally invasive



**Figure 8** (A) Prof. Simon Law; (B) Dr. Xufeng Guo; (C) Prof. Takashi Kojima; (D) Prof. Yan Song.

esophagectomy is superior to the open surgery in terms of postoperative survival and safety. There are several auxiliary means [e.g., APS neurological management and indocyanine green (ICG) fluorescence angiography] for improving the prognosis; however, these auxiliary means still have certain limitations.

Dr. Xufeng Guo (*Figure 8B*) from Shanghai Chest Hospital introduced the experience of Shanghai Thoracic Hospital in “Lymph Node dissection after Multidisciplinary Treatment”. Prof. Wentao Fang *et al.* concluded positive nodes after induction therapy is an important indicator of poor prognosis; the number of lymph node metastases and the total number of lymph nodes dissected are independent risk factors that influence the N-staging result, survival, and disease recurrence.

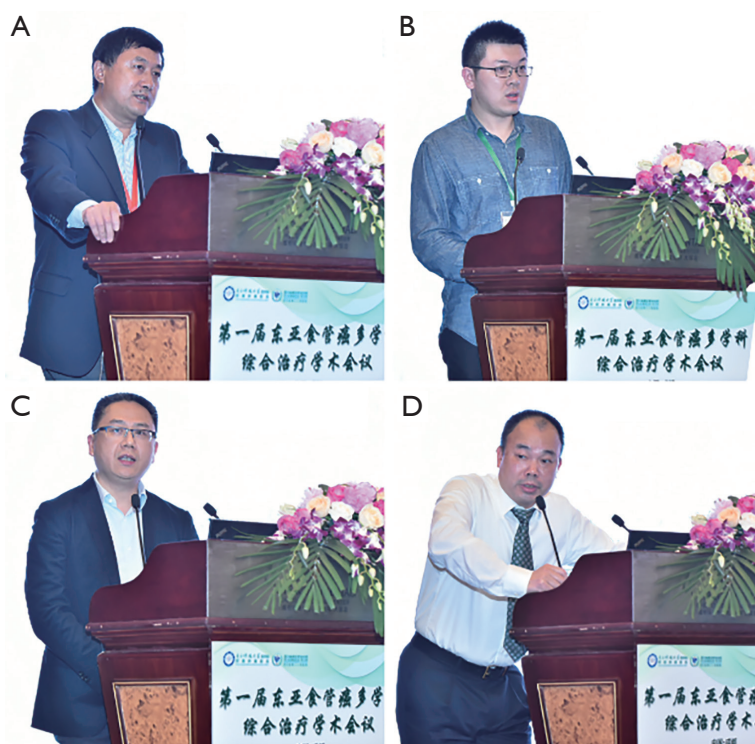
Prof. Takashi Kojima (*Figure 8C*) from National Cancer Center Hospital East, Japan, introduced the “Status Quo of Radiochemotherapy for Esophageal Squamous Cell Carcinoma (ESCC) in Japan”. According to Prof. Kojima, radiochemotherapy is currently used as an optional treatment for resectable ESCC but a standard treatment for unresectable ESCC. The docetaxel, cisplatin, and 5-fluorouracil (DCF) protocol can achieve relatively high

percentage of tumor shrinkage and is therefore often used as neoadjuvant chemotherapy. Radiochemotherapy also has good effectiveness when used as a remedial or palliative treatment.

Prof. Yan Song (*Figure 8D*) from the Cancer Hospital of the Chinese Academy of Medical Sciences explained the “Chemotherapy and Targeted Therapy for Advanced Esophageal Cancer”. While there is no “gold standard” chemotherapy for advanced esophageal cancer, the combination with DDP, 5-FU, taxanes, and DPT-11 is an effective protocol. Most studies on the roles of targeted drugs, including immunotherapies, in treating advanced esophageal cancer are based on single agent, and the preliminary results were promising. Screening the patient groups that are most likely to benefit such therapies is the key to improving the therapeutic efficacies.

The values of left and right transthoracic approaches in surgeries for esophageal cancer remain highly controversial. In his lecture Prof. Junfeng Liu (*Figure 9A*) from the Fourth Hospital of Hebei Medical University evaluated the “Conventional Left Transthoracic Approach for Surgical Treatment of Esophageal Cancer”. The surgical approach should be carefully designed based on the stage, location,





**Figure 9** (A) Prof. Junfeng Liu; (B) Dr. Han Tang; (C) Prof. Chun Chen; (D) Dr. Derong Zhang.

and precise preoperative diagnosis of the disease.

Dr. Han Tang (*Figure 9B*) from Zhongshan Hospital of Fudan University introduced a research done by Prof. Lijie Tan's team—"Application of Neoadjuvant Chemotherapy versus Neoadjuvant Radiochemotherapy in the Treatment of Locally Advanced Esophageal Cancer". The preliminary results showed a potential superiority of neoadjuvant radiochemotherapy over neoadjuvant chemotherapy; however, the long-term survival rate of patients still needs further investigations.

Based on his own clinical experiences, Prof. Chun Chen (*Figure 9C*) from Fujian Medical University Affiliated Union Hospital described the "Da Vinci Robotic Surgery for Esophageal Cancer with 2.5-field Lymph node Dissection". According to Prof. Chen, the da Vinci robotic surgery with 2.5-field lymph node dissection is a feasible technique, with more stable operation and better visual field. Its advantages are even more prominent when used for dissecting lymph nodes near left recurrent laryngeal nerve and at cervical-thoracic junctions, which are difficult to access and operate on.

The lecture given by Dr. Derong Zhang (*Figure 9D*) of Fujian Provincial Cancer Hospital was titled "Lymph Node Dissection for Thoracic Esophageal Squamous Cell

Carcinoma: A Retrospective Analysis of Data of 1551 patients from A Single Center". According to Dr. Zhang, routine 3-field lymph node dissection is recommended for the upper thoracic esophageal squamous cell carcinoma, and routine 2-field lymph node dissection is recommended for the middle and lower thoracic esophageal squamous cell carcinoma. However, more prospective studies should be performed to clarify the scope of lymph node dissection in patients with esophageal cancer.

### **Surgical demonstrations: thoracoscopy combined with laparoscopy for radical treatment of esophageal cancer**

Surgeries were broadcast live at the end of the conference. Prof. Yongtao Han from the Cancer Hospital Affiliate to University of Electronic Science and Technology of China (Sichuan Cancer Hospital & Institute) and Prof. Yin-Kai Chao from Chang Gung Memorial Hospital in Taiwan jointly demonstrated "combined thoracoscopic and laparoscopic radical esophagectomy for esophageal cancer" (*Figures 10,11*). The real-time interaction between the conference venue and the operating room enabled the



**Figure 10** Surgical demonstration by Prof. Yongtao Han.



**Figure 11** Surgical demonstration by Prof. Yin-Kai Chao.

audience to gain a more profound understanding of the specific surgical procedures, steps, and techniques.

### **Elite forum on minimally invasive surgery for esophageal disease**

The conference was full of highlights and surprises. It not only brought together top experts in the field of esophageal cancer but also designed fascinating sessions including sharing of experiences in clinical research, discussions on hot topics of minimally invasive surgeries for esophageal cancer, and elite video-sharing on minimally invasive surgery for esophageal disease. For all the delegates, it was a meaningful and productive gathering.

#### ***Sharing of experiences in clinical research***

In his lecture “International Registration of Clinical Trials”, Dr. Liu Jiali from West China Hospital of

Sichuan University detailed the purpose, necessity, ethical considerations, practical significance, status quo, challenges, and specific procedures and steps of clinical trial registration.

Dr. Hui Liu from the Cancer Hospital of Sun Yat-sen University shared her experiences in “Article Writing and Data Acquisition”. According to Dr. Liu, conducting clinical research is the duty and obligation of a doctor. Clinical studies can help doctors to accumulate experiences and promote the development and update clinical guidelines. Therefore, it is important to follow up all the treated patients by specially assigned personnel, so as to ensure continuity. Writings are for conveying truth, which is equally true for writing scientific article.

Dr. Zhirui Zhou from the Cancer Hospital of Fudan University gave a lecture titled “Statistical Errors in Clinical Trial Design” by analyzing typical statistical errors in scientific articles. The common statistical errors include: (I) random sampling is performed in an “arbitrary” way; (II) random grouping is performed in an “arbitrary” way; (III) lack of control group(s) or use of unreasonable control group(s); (IV) lack of sample size estimation; (V) violation of the principle of replication; and (VI) without an awareness in correcting confounding factors.

In his lecture titled “How to Avoid Common Errors in Scientific Writing”, Dr. Zhide Hu from AME Publishing House proposed practical suggestions on how to address the common errors such as wrong logic, improper use of words, Chinglish, table/figure errors, typesetting problems, lack of a statement of literature source, lack of knowledge of how to emphasize key points, errors in the use of tenses, grammatical errors or ambiguity, and incorrect reference formats.

#### ***Discussions on hot topics of minimally invasive surgeries for esophageal cancer and elite video-sharing on minimally invasive surgery for esophageal disease***

Dr. Yang Hu from West China Hospital of Sichuan University and Prof. Peng Lin from Cancer Hospital Affiliate to University of Electronic Science and Technology of China (Sichuan Cancer Hospital & Institute) presented introductory lectures titled “Protection of Recurrent Laryngeal Nerve during Minimally Invasive Surgery for Esophageal Disease” and “Surgical Considerations after Neoadjuvant Treatment of Locally Advanced Esophageal Cancer”, respectively, which caused heated discussions among the audience. Dr. Shaowei Zhang from the Fourth Hospital of Hebei Medical University, Dr. Xu Zhang from





**Figure 12** Meeting venue photos.

Cancer Hospital of Sun Yat-sen University, Dr. Qiang Fang from Cancer Hospital Affiliate to University of Electronic Science and Technology of China (Sichuan Cancer Hospital & Institute), and Dr. Xiaobin Shang from Tianjin Cancer Hospital performed live surgery demonstrations, which were commented by the experts at the venue.

The first East Asia Conference on Multidisciplinary Treatment for Esophageal Cancer (*Figure 12*) was a creative and fruitful meeting that offers a platform for delegates at home and abroad to meet and to share their experiences and insights, and their contributions ensure the advancement of knowledge in this ever-changing field. New findings and new achievements can be expected in our next gathering!

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### Footnote

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