Prof. Jun Nakajima: to keep aggressive and innovative in the field of thoracic surgery

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Editor's note

The First Shanghai Chest Hospital Forum on International Medical Robot Minimally Invasive Surgery was held in Shanghai during March 21–23, 2019.

It has invited many world-renowned experts in the field of robotic and thoracoscopic surgery both at home and abroad, with the purpose to further study the nature of medical robotic surgery, and to explore the application of AI in thoracic surgery.

Prof. Jun Nakajima, from the University of Tokyo Hospital, made a speech to share the experience on thoracic surgery in his hospital (*Figure 1*). With a great honor, *Shanghai Chest* has a chance to interview with Prof. Jun Nakajima during the meeting (*Figure 2*).

Recently number of patients with lung cancer has been increasing in the world, especially in East Asian countries. Needs for less-invasive thoracic surgeries are also increasing because patients with lung cancer are generally older and they frequently have comorbidities associated with tobacco smoking. Lung transplantation has become a standard treatment for patients with diffuse lung diseases that cannot be cured by medication. For these diseases, further technological and biological innovation is necessary to improve outcome of treatment.

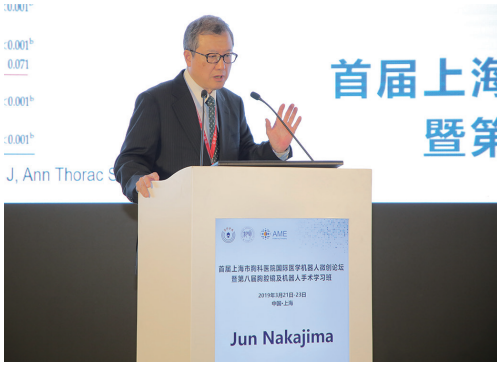

Figure 1 Prof. Nakajima.

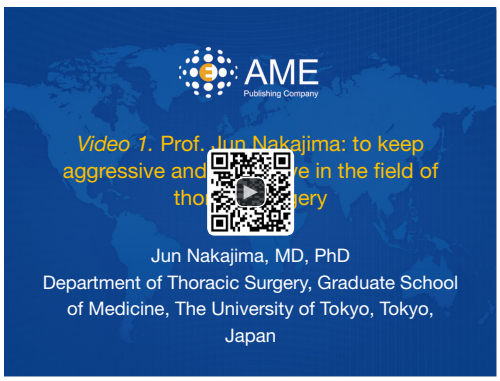

Figure 2 Prof. Jun Nakajima: to keep aggressive and innovative in the field of thoracic surgery (1).
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Expert's introduction

Dr. Jun Nakajima is a vice-director of The University of Tokyo Hospital, and Professor of Thoracic Surgery, The University of Tokyo Graduate School of Medicine in Tokyo Japan. He is also the chief of the Department of Thoracic Surgery of the University of Tokyo Hospital. Dr. Nakajima earned his MD from The University of Tokyo in 1982, and PhD from The University of Tokyo Graduate School of Medicine in 1992, and he became a certified thoracic surgeon in Japan after residency of The University of Tokyo Hospital and other associate hospitals. Dr. Nakajima has performed thoracoscopic surgery since 1993, and he published many articles on clinical studies of thoracoscopic surgeries for thoracic malignant diseases. After he became the chief of the thoracic surgery in The University of Tokyo Hospital, He established lung transplantation program, and he and his colleagues performed the first lung transplantation in Tokyo in 2015. He is an executive council of Asian Society for Cardiovascular and Thoracic Surgery

(ASCVTS), and he is working as a member of American Association for Thoracic Surgery (AATS) and European Association for Cardiothoracic Surgery (EACTS).

Interview

SHC: What role does robotic surgery plays in thoracic surgery in Japan? Is it your first choice when treating patients?

Prof. Nakajima: Robotic surgery was introduced in Japan in the early 21 century. I know that the surgeons in the Kyushu University initiated the mediastinal tumor resection, but since then, not so many robotic surgeries were done in thoracic surgery because they were not covered by national insurance. However, last April Japanese government started to cover the fee of robotic surgery with national insurance. Therefore, the number of the robotic surgery for thoracic surgery is increasing in one year. I think that the robotic surgery, and it seems to me, is equal to video-assisted thoracoscopic surgery (VATS). For surgeons, especially for young surgeries, it may be easier to do robotic surgeries than VATS, as they are very interested in doing robotic surgeries. I expect that the number of the robotic surgery will increase dramatically in the near future in Japan. I'm old enough and was so familiar with a VAT surgery, thus I will not change my policy. But I recommend that young surgeons may perform robotic surgeries for thoracic diseases.

SHC: You have started a lung transplantation program, the only one in Tokyo. Can you briefly introduce it? What's the aim of this program?

Prof. Nakajima: Lung transplantation in Japan has started since 1998 in Okayama University. We are a bit late and started the lung transplantation program in 2015. Since then, we have performed 24 cases of lung transplantation and we lost only one patient after surgery. But others are doing very well, including three living-related donor lung transplantation patients. The aim of the lung transplantation in our hospital is to treat patients with diffuse lung disease, especially in Tokyo area, where we have a more than thirty-eight million people. There are many patients waiting for the lung transplantation. We have seventy-four patients are waiting for lung transplantation to date.

SHC: Looking back, what was your proudest achievement?

Prof. Nakajima: I am actually the first Professor of the Thoracic Surgery in the University of Tokyo Hospital. Before me, cardiac surgeons performed both the chief of cardiac surgery and the chief of thoracic surgery. But recently the number of general thoracic surgeries in Japan has been increasing and the need for the thoracic surgeon has been also increasing. I was firstly proud to be a Professor in the University of Tokyo and was proud to my research work. I have been studying the less invasiveness of VATS. We saved many people through less invasiveness of VATS. And the second point is that I started the lung transplantation program in our university and it was the only one program in Tokyo.

SHC: What is the main focus of your current research? Which specific questions you want to address?

Prof. Nakajima: In the point of less invasive thoracic surgery, we are now doing a clinical study on detecting very small pulmonary nodules, using VAL-MAP, which is a virtual assisted lung mapping (VAL-MAP). It's very unique because we made multiple markings to secure the surgical margin. So now we are now doing the second generation of VAL-MAP, that is, fiducial placing through bronchoscopy to secure the deep margin of the lung tumor along with the original VAL-MAP. We are collecting the surgical outcome of this clinical data and it will be published soon. The second research is the immunotherapy of lung cancer. I did not make a lecture in this time, but I have been engaging this clinical study for more than ten years. This study is based on the cell transfer immunotherapy. The third one is the study on extracorporeal membrane oxygenator (ECMO). Patients suffering from the severe respiratory failure necessitate ECMO support as a bridge to lung transplantation. Thus, we are now doing an animal experiment to develop a long durable ECMO machine.

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Footnote

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References

1. Liu X, Wang MJ. Prof. Jun Nakajima: to keep aggressive and innovative in the field of thoracic surgery. Asvide 2019;6:122. Available online: http://www.asvide.com/article/view/31317

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