

Prof. Zhehai Wang: medicine requires great talent and high moral standards

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Introduction

The ancient Greek aphorism “*know thyself*” engraved on the forecourt of the Temple of Apollo epitomizes the human desire for the exploration into the unknown. In fact, never has mankind dragged their feet in understanding themselves, as in the achievements scientists have made all these years in the studies of disease and pathology.

Ere the 2017 WCLC journey, AME Editors were sent across China to conduct in-depth interviews with an army of distinguished experts in the field of lung cancer. Together we learned how these soldiers fought for the nation that has the largest number of patients, and how they dedicated their lives to inventing the most-advanced weapons and probing into the enemy camp. From the past, they reflect and learn from mistakes; at present, they work hard and make changes; for the future, they make plans and improvements.

May this issue take you to the innermost world of these Chinese scholars, where you can delve into their wealth of knowledge and be inspired.

Prof. Zhehai Wang from Shandong Cancer Hospital presented himself as an approachable and down-to-earth gentleman. He never uses big words or makes empty promises but only regards himself as an ordinary person serving in an ordinary position.

Expert's introduction

Prof. Zhehai Wang (*Figure 1*), deputy director of Shandong Oncology Hospital, supervisor of postgraduates, deputy director of Thoracic Cancer Division, China International Exchange and Promotion Association for Medical and Healthcare (CPAM), member of the standing committee of Chemotherapy Division, China Anti-Cancer Association (CACA), member of the standing committee of Senior Patients with Lung Cancer Study Group, CACA, member of the standing committee of Oncologists Division, Chinese Medical Doctor Association (CMDA), member of the standing committee of Internal Medicine Training



Figure 1 Prof. Zhehai Wang.

Division, CMDA, member of the standing committee of Anti-tumor Drugs Clinical Study Group, CACA, member of Nutritional Therapy for Cancer Division, Chinese Society of Clinical Oncology (CSCO), member of Osseous Metastasis Study Division, CSCO, executive officer of Shandong Province Anti-Cancer Association, director of Lung Cancer Division, Shandong Province Anti-Cancer Association, deputy director of Shandong Province Rational Drug Use Committee, group leader of Shandong Province Anti-tumor Drugs Association, deputy editor-in-chief of *Chinese Journal of Cancer Prevention and Treatment*, member of Editorial boards of *Journal of International Oncology*, *Chinese Clinical Oncology* and *Journal of Thoracic Oncology* (Chinese version).

Lung cancer treatment: timeliness, comprehensiveness and preciseness

Battling against cancer is like racing with a nasty competitor where both patients and doctors are striving for success.

In the field of lung cancer, early detection, diagnosis and treatment of the disease have become an essential principle. “Timeliness is so important for patients”, said Prof. Wang, who has been advocating “the three early principles” in recent years, i.e., early detection, early diagnosis and early treatment. “We might manage to save a patient’s life if only we could buy us some more time at any of these stages. Nevertheless, it is not easy to carry out.” Prof. Wang sighed and continued, “it calls for the joint effort of the entire society. Medical professionals, the government, media and the public, all need to enhance their awareness on the issue of timeliness.”

The recent decade has seen development in cancer diagnosis and increase in the application of targeted drugs. Therefore, precision medicine has gradually become the new mainstream line of thinking when treating lung cancer. Prof. Wang provided his opinion by saying that “to treat cancer, we need a comprehensive plan, and precision medicine is only one of the various methods in the large range of cancer treatment. We must not ignore other treatment methods and merely depend on the so-called precision treatment.”

Prof. Wang continued to elaborate, “When it comes to the treatment principle, we should first emphasize on the principle of comprehensive treatment. For instance, we cannot completely abandon chemotherapy, radiotherapy and other methods and merely depend on a type of targeted drug for an advanced lung cancer patient with EGFR mutation. In fact, the major principle of comprehensive treatment is invariable. However, it should also be highlighted that the importance of different treatment methods can vary during different stages of the treatment process. For patients with EGFR mutations, the curative effect of targeted drugs is better than chemotherapy, and when only one method can be selected, we would obviously prefer the more effective targeted therapy.”

Prof. Wang added that due to the principle of comprehensive treatment, the methods of comprehensive diagnosis have been increasingly applied to patients by use of staging diagnosis, molecular diagnosis, gene diagnosis etc. Whether different treatment methods should be applied simultaneously or sequentially should be analysed case by case in order to provide a comprehensive and accurate treatment plan.

The order of applying TPI drugs and chemotherapy is an issue most oncology clinicians need to consider. Take advanced non-small-cell lung cancer patients with EGFR sensitive mutation for instance, so far, there has not been a standard clinical study on whether TPI drugs should come first, or if chemotherapy should come first.

Prof. Wang provided his opinion on this issue by saying

“two points need our attention here. First of all, applying targeted drugs is currently the most important treatment method for non-small cell lung cancer patients with EGFR sensitive mutation and we need to ensure these patients will be able to undergo this treatment. This is different from the strategy we apply when using antibiotics. Normally, when we give patients antibiotics, we will go from low to advanced. However, we must give priority to the best method when it comes to cancer treatment. From this point of view, choosing targeted drugs is a reasonable method. Secondly, from the angle of comprehensive treatment, the application of different treatment methods will be more effective than that of a single treatment method. When using chemotherapy drugs, we must also ensure that patients have access to targeted drugs as well. To sum up, the key is to know that applying targeted drugs is the most effective treatment method to non-small-cell lung cancer patients with EGFR sensitive mutation, but the order in applying different treatment methods must vary from person to person so as to address their individual conditions.”

We cannot talk about targeted drugs without mentioning osimertinib, the third-generation targeted drug. As the only drug to treat non-small cell lung cancer with EGFR T790M positive mutation, its introduction to clinical application has been a blessing to patients with such gene mutation who could not benefit from TKI treatment.

Prof. Wang has been engaged in the research on lung cancer for over 30 years and has witnessed the rapid development in the treatment of lung cancer. With regard to osimertinib’s entrance into the market, Prof. Wang said, “We initially only had access to chemotherapy drugs, and now the first-generation and second-generation targeted drugs have grown resistant. We can even develop a third-generation targeted drug and are able to control the development of patients’ conditions and extend their life expectancy significantly. This study is the hope of the patients.” In conclusion, the path of precision medicine study is promising. With continuous research, it has great potential.

When talking about his specialty, Prof. Wang has a lot to say. He has a thorough understanding of the treatment to cancer and also has his own special insights. Confucius once said, “Learning without thought means labour lost; thought without learning is perilous.” Prof. Wang’s solid knowledge of medicine and excellent clinical skills is the best embodiment of the combination of “learning” and “thinking”.

Educating medical professionals: medicine requires great talent and high moral standards

In order to advance the development in the diagnosis and

treatment of cancer, Shandong Cancer Hospital initiated the “Regional Medical Alliance” program last year. As the deputy director of Shandong Cancer Hospital, Prof. Wang pays great attention to this project. In his opinion, all hospitals are like independent teams that are also connected to each other. The “Regional Medical Alliance” program integrates various medical resources within the region. With this program, hospitals can complement each other and make best use of medical resources and assist citizens in overcoming the difficulties of medical service. There are multiple collaborative projects among institutes at various levels, including but not limited to prefecture-level city governments, cancer centers, oncology departments etc. Specifically, they have launched programs such as general medical examination on cancer, educating medical professionals in the field of cancer treatment, distance learning and academic communication etc. The mode of “Medical Alliance” is of great benefit to enhance the academic and clinical skills of the local medical professionals. *“I believe that with the support from the government and the efforts from medical institutes, we can better integrate medical resources and benefit more doctors and patients sooner”*, said Prof. Wang.

Like most of his counterparts, Prof. Wang attaches great importance to the education of young professionals. “No matter which industry you are looking at, the so-called competition is ultimately the competition of talents.” Prof. Wang believes that educating talents is more advantageous in comparison with merely introducing talents into any industry. Shandong Cancer Hospital launched the “Top Ten Talents Education” program in 2015. Every year, they organize a public examination and the top ten young doctors would be selected and sent to study and do research in the USA.

Prof. Wang emphasized that both ethics and skills are important in medical education. *“Firstly, we try to strengthen young doctors’ ethics in the medical environment because without a sense of responsibility and compassion, one can never become a good doctor. Secondly, medical students cannot be narrow-minded and need to actively enhance their professional skills. We encourage them to embrace new knowledge, have academic communication with international specialists and to constantly expand their horizon. Thirdly, young medical professionals need to balance their scientific research and clinical practice in a reasonable way. Research needs to be done but experience obtained from clinical practice is also essential. Although we have entered the era of evidence-based medicine, experience gathered from practice is still the core of medicine. Doctors who only know about the theories cannot go far on the path of medicine.”*

“When it comes to educating young doctors, I am reminded of the time when I was a medical student. My supervisor, Prof. Jinming Yu, had a profound impact on my career as a physician. Knowing Prof. Yu for 30 years, I have learned a lot from him. He was the director of Shandong Cancer Hospital at that time. Under his great leadership, the hospital witnessed rapid development over the past few decades. The research experience in USA trained him to be constantly sensitive towards academia. The concept of precision medicine, which people talk about a lot nowadays, was mentioned by Prof. Yu as early as 1996. It is considered forward thinking even though it is not entirely the same as today’s precision medicine conceptually. Prof. Yu later became an academician. However, he has never stopped keeping abreast of the latest academic advance,” remarked Prof. Wang, proud and grateful for having once been Prof. Yu’s student.

There is an ancient saying alluding to how the practice of medicine requires great talent and high moral standards. It is the ultimate goal of Academician Yu and Prof. Wang and their earnest expectation towards young doctors today.

Studies change into habits

Prof. Wang was a straight as student during his school years. From his first year in primary school till his graduation from university, Prof. Wang had always been a role model in study in the class. His keen attitude towards academics gradually developed into a good habit and eventually led him to his medical career. In the blink of an eye, Prof Wang has already practised medicine for more than 30 years. He has grown from an ordinary physician, to chief physician and then the deputy director of the hospital. Although the positions have changed, Prof. Wang has kept his good habit of constant learning. There are a lot of books on Prof. Wang’s office table, not only medical books but also many books related to history, philosophy, Buddhism, Taoism etc. Out of curiosity, I asked Prof. Wang why he has so many books related to Buddhism and Taoism. He smiled and said *“working as a doctor all these years, I have to face many patients with incurable diseases. It is essential for a doctor to be able to adjust his mind-set. For me, reading these books helps with easing my emotions, to put myself into the shoes of all beings and understand life and death more deeply, so that I can better deal with my patients.”*

In 2004, Prof. Wang won the Sichuan Medical Scholarship and went to Tokyo Metropolitan Hiroo Hospital to study. Looking back, Prof. Wang said he not only obtained advanced medical knowledge, but also broadened his vision there. *“When I studied in Japan, it*



Figure 2 Oil painting from Jing Zhao.

seemed that I entered another world. Many of my concepts and ideas were shattered and reshaped,” he frowned a little and continued *“After that, I grew up quickly. It was a painful process, but it was a great help to my whole life.”*

“Histories make men wise; poets, witty; the mathematics, subtle; natural philosophy, deep; moral, grave; logic and rhetoric, able to contend. *Abeunt studia in mores* (Studies change into habit).” This is a perfect line to describe Prof. Wang’s meticulous and refined disposition.

Life symbolized as a tree in blossom

In 2007, Prof. Wang had a female patient, whose name was Jing Zhao. She was a gentle and quiet girl, just like her first name “Jing” (quiet). *“She was an outstanding student who was once selected as one of the “60 National Outstanding University Students”. She worked as a volunteer teacher in a remote mountainous area for one year and started teaching in Shandong Normal University after graduation. In the same year, she was diagnosed with advanced lung cancer.”* Prof. Wang sighed and continued, *“when she came here, she had already developed bilateral lung metastasis and could not undergo operation. Only chemotherapy or other maintenance treatment could be adopted. We invited specialists from Beijing for consultation, but under the medical circumstance at that time, there was not much we could do. Within about 8 to 9 months, she passed away.”*

During the Spring Festival in 2008, most patients went home for their holidays. Jing insisted in staying to continue her treatment. At that time, she created a few oil paintings and gave one of them to Prof. Wang, saying, *“I understand my condition very well, Prof. Wang. Thank you for looking after me all this while. This painting is for you and I wish you can*

keep it no matter how matter the passing of years.” Ten years has passed since then, and that day remains vivid in Prof. Wang’s mind.

During the ten years, no matter where Prof. Wang moved his office to, he kept the painting with him. It is still in intact condition, as a symbol to remind Prof. Wang to care for his patients and spend every bit of his effort to save their lives.

With a golden frame and light grey background, Jing painted a basket of flowers in various colors (Figure 2). The vibrancy of the flowers shone even brighter under the contrast of the green leaves. They represent her hope and enthusiasm towards life. I stood in front of the painting for a long time after the interview, imagining how Jing battled against her disease and pain as she raced against time, and how Prof. Wang and other medical professionals ran back and forth in their greatest effort to try to save her.

Professionalism calls for perfection, contemplation and a caring heart for patients. The road people choose is often a road returning to where they belong. On the path of medicine, Prof. Wang has found his true self and his ultimate goal, his determination strengthening as he continues along the path.

Conversation with Prof. Wang

AME: *With regard to the “three early principles” advocated in recent years, what do you think can be done?*

Prof. Wang: The prevention and treatment to cancers calls for the joint effort from the entire society. In my opinion, there are at least four parties that need to participate in this cause. First of all, medical professionals need to grasp the essence of the “three early principles” and practice them in their daily work. They should also talk about the principles with the people around them. Secondly, the government can play a vital role in providing more support for the expansion of general examination on cancers for the people. Thirdly, the media needs to appropriately guide the public, by promoting more information on medicine for the public good, rather than advertising too much for commercial purposes. Last but not least, citizens themselves need to raise awareness on the prevention of cancers and undergo medical examinations regularly.

AME: *What are your current main research areas?*

Prof. Wang: My main research area is on the respiratory system. Specifically, I am working on some research on the

clinical techniques for treating lung cancer.

AME: *We are aware that you are committed to the treatment of malignant cancers at advanced stages, so how do you face patients with incurable diseases?*

Prof. Wang: Many of my patients are not just patients to me. They are also my friends. It is depressing when they pass away. In order to adjust my mentality, I often read books on philosophy, Buddhism and Taoism. These books help me to understand life more deeply. And my sadness can be eased by reading these books.

AME: *Many young doctors found it hard to face the pressure when they first enter the oncology department. What would be your advice to help them adjust their mind-set?*

Prof. Wang: Firstly, young doctors need to clearly understand their specialty and understand the present and the future of the study on cancers. They need to set achievable goals to treat their patients. Take patients with advanced cancer for instance, doctors should aim at extending their life expectancy, in other words, turning cancer into a chronic disease. In addition, young doctors need to accept the state of our current medical development condition and do not press themselves too hard. Instead, they should transfer the pressure to motivation in cancer-related research.

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AME: *What would you do if a patient with advanced cancer resists and refuses to accept your treatment plan?*

Prof. Wang: For patients with advanced cancer, we have two goals, i.e., extending their life expectancy and improving their life quality. Doctors, when having understood their patients' condition, will have more confidence in clinic, and the state of overtreatment and the toxic side effects of treatment have reduced significantly nowadays. However, due to a variety of reasons, some patients will still choose to not accept the suggested treatment plans by doctors. Under such circumstances, I will first try to communicate with the patients to help him understand the treatment plan. If s/he still resists, I will respect their decision.

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Footnote

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