# Interview: James Yang – Director, Department of Oncology, National Taiwan University Hospital; Director, Graduate Institute of Oncology, National Taiwan University

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19.05.2017

Tags: Taiwan, National Taiwan University, Oncology, Cancer, University, R&D, Research, Hospitals

*James Yang, Director of the Department of Oncology at National Taiwan University Hospital and Director of the Graduate Institute of Oncology at National Taiwan University, discusses the important role of oncology research in developing the Taiwanese pharmaceutical market as well as the new National Taiwanese University Cancer Center (which will provide care for 500 beds as well as tremendously increase the oncology research capacity in Taiwan in particular and in Asia in general).*

**You were appointed Director of the Department of Oncology of the National Taiwan University Hospital in August 2015. You also participated in the establishment of the new National Taiwan University Cancer Center. Can you tell us more about this center?**

Oncology as a specialty is rather new. Previously, many departments were treating cancer patients according to their areas so medical oncology didn't exist. Globally, the first organized structure that started treating all cancers together appeared in the 1980s. It is a relatively young specialty and we are one of the earliest established medical oncology centers in the region.

In 1993, the Department of Oncology was created at National Taiwan University Hospital, which is relatively new compared to the long history of this hospital, established in 1895. It consists mainly of medical oncologists, radiation oncologists, and surgeons. We have a database of cancer treatments, comprising a cancer registry (established 30 or 40 years ago), the National Insurance Health database, and a death registry—collectively allowing us to analyze an extensive amount of information to monitor the treatment outcomes of cancer patients in our hospital. With increasing numbers of patients and more available treatments that we can provide to late stage cancer patients, there is an enormous need for space and medical professionals to provide state of the art cancer care to patients. We were very lucky to receive the donation to establish this New National Taiwan University Cancer Center to serve our patients.

**You were one of the first to establish this multi-disciplinary approach for cancer treatments. Now that you are heading all these treatment groups, what is the main objective you want to achieve?**

This multi-disciplinary approach was created to provide patients the best sequence and combination of treatments possible. However, we have to ask the question of how we can improve cancer patients' care when they are already metastatic or far advanced? The only way is through state-of-the-art treatment: an intensive local treatment (best surgery or radiotherapy) or the best drugs for systemic treatments. Therefore, we need to get the best innovative surgeons and we have them. For example, we were one of the first to take out the lung nodules which can be cancerous without intubation. For radiotherapy, we have to acquire the newest, most-sophisticated machines and train the best people. In systemic treatment, we have to get the best drugs or approaches. When we first started, most of the patients were treated with chemotherapy. The only drugs that were available were hormonal therapy which are quite important but in the 2000s, we started to establish treatments using targeted therapy and it has been an ongoing endeavor for the past 16-17 years.

Moreover, four years ago, immunotherapy became the reality for cancer treatment and will play a major role in cancer research in the forthcoming years. We should be able to provide space and facilities for patients entering experimental therapy. Running experimental therapies was our most important mission when we established this department. We tried our best to accommodate most international standards and protocols to run clinical trials. In 1987, we created an ethics committee and all protocols were reviewed. At that time, most experimental therapies in Taiwan were academic studies and were dealing with a combination of already marketed drugs; no hospital could work with non-marketed drugs and there were no protocols or clinical trials because

everything was tested in Europe or the USA before coming to Taiwan. Also, international companies were not yet working in Taiwan at that time. That is why I went to be trained in the US, specifically at the National Institute of Health, so I could learn the essentials for conducting clinical trials with investigational agents. I was also able to familiarize myself with the newest and latest drugs. The oncology training that I received was mostly about experimental therapies because I was working with trial patients. Thanks to this training, we were able to establish this department and get sponsors and new treatments for our patients. We see ourselves as experimental therapists and while we offer standard care to our patients, we also want to offer them the opportunity to access the most pioneering treatment alternatives.

**What are the main areas in which the Department of Oncology is strongly developing experimental therapy?**

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I am focused on lung cancer. When I entered this field, I started with this study and this targeted therapy has become the most important treatment modality for these patients. When patients do chemotherapy, their median life expectation range from 9 to 12 months but with the targeted therapy, if we can identify the target of our patients, their medium survival can be as short as 3 to 4 years, even 5 years in our hospital. Right now, we are running 80 to 100 cancer studies simultaneously. Our purpose is to provide the best treatment to our patients and find drugs that can potentially be helpful for them.

We have a really good organization to run clinical trials, specialized in many fields. I think our facilities and clinical trials are, in terms of numbers and quality, as good as most large American or European centers. We have many specialty doctors and a lot of patients. NTUH’s phase I studies numbers are probably higher than most of the large medical centers in Europe and the USA.

**What resources would you require to be able to conduct more phase I and phase II clinical trials?**

Our efforts are not limited by the number of patients but by our space. We don’t have enough space to treat patients and to run clinical trials. Another limitation is the number of researchers and physicians who are running clinical trials. We are working towards this by building a brand new cancer center. We received a huge grant donation to build a National Taiwan University Cancer Center (NTUCC), which will open at the end of 2018. It will contain around 500 beds in addition to the ones we currently have in the hospital.

**Spanning the country's healthcare ecosystem, what would you identify as the primary limitations inhibiting more effective cancer treatment in Taiwan?**

A lot of things are lacking. For example, reimbursement for advanced drugs is a little slow due to the high price of new cancer drugs such as immunotherapy. It has revolutionized our treatment for many types of cancer but it is only effective for around 10 to 20 percent of patients. Every year, we see 100,000 new cancer patients on this island and around half of them will go to an advanced stage and will required systemic treatment.

Immunotherapy will be one of them but if you count the current price for this (currently around USD 15,000 per month), unless there is a global decrease of the price, it will not be reimbursed; while in the past, our system allowed the reimbursement of every drug effective on the patient. Now, they are unable to do it because of the substantial increase in price.

As a result, the workforce (doctors, nurses and others working in medical services) is also underpaid in comparison to other countries, so it has become another challenge. Only around 6.6 percent of our GDP is given to healthcare expenses, which is particularly low in comparison to OECD countries, so we can't really increase the quality of our health service without further increasing the resources we allocate to this endeavor.

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**President Tsai said that long-term care is one of the priorities of the government and they really want to make Taiwan the R&D biopharmaceutical center in Asia Pacific. Do you feel that the new government could change things from the research perspective?**

Well, people think that they can change everything but it takes time. They established the policy but it needs many steps to be effectively carried forward: you need the legal basis and the budget but it is already very tight. Therefore, what we can do is create a good environment for foreign investors. In Europe and the US, government input in biomedical research hasn't really been successful because it was for academia and researchers, and in this industry, you need to use capital from the bottom. Only the industry would know where the money should go. Improving clinical trial reviews, market access and reimbursement are the elements the government should work on instead of finding more budget to open more biotechs. They should think about how to attract foreign investors, reduce taxes and the redundancy of reviews, and accelerate the approval procedure for new drugs and experimental therapies.

**You are now heading the Department of Oncology as well as the Graduate Institute of Oncology at the College of Medicine. Where do you want to bring the National Taiwan University Hospital?**

We have three main missions. We want to serve our patients well, create new treatments through our research, and educate the new generation. Everything that we do is to fulfil these missions. For example, the NTUCC was created to bring better services to our patients by giving them a better case management system, a better environment, and even more experimental therapies.

For education, we are hoping that new doctors and medical personnel who are learning state-of-art oncology should work on following the best practice patterns to take care of the patients in the new hospital.

For research, we are building a separate building for cancer research within a walking distance from the NTUCC. The planned facilities surrounding NTUCC include a basic science campus, an animal center, and a high-performance computer center. Therefore, we are in a good position to coordinate resources and efforts to establish the best cancer center in the region.

We can focus on our mission, that is, to treat the patients, to educate, and to conduct state-of-the-art cancer research. I will be working on both sides to make sure the two new hospitals under one medical school can work as one because we do have limited resources. We also have a lot of international connections and we do a lot of clinical trials, helping drugs to be marketed. Prof. Ann-Lii Cheng, the current NTUCC superintendent, certainly has the vision to make this center the best in the region.

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