Prof. Jean Armand: personalized medicine in France and the niche in future international cooperation

Jean-Pierre Armand MD, MSc, certified in Medical Oncology, is senior consultant at Institute Gustave Roussy and Institute Curie in Paris (Figure 1). He was the General Director of the Institute Claudius Regaud the comprehensive cancer center in Toulouse and was in charge of the construction of a new cancer center (institut universitaire cancer) in a European research hub created in the Toulouse cancer campus. He is an active member of the Medical Oncology Community. Previously Head of Early Clinical New Drugs Programs and Medical Director Research and development at the Institute Gustave-Roussy, Villejuif, Prof. Armand is involved in Phase I II and III studies for the treatment of solid tumors. Prof. Armand is active at ESMO, EORTC and at EMEA French agency (AFSSAPS). In CSCO 2013 in Xiamen, China, professor Armand gave a presentation on personalized medicine in France and here we are honored to have an interview with Prof. Armand to detail the recent update in drug development.

CCO: You just gave a speech of personal medicine in France, so what do you think is the characteristic of the personal medicine in France?

Prof. Armand: The French government and French minister of health decide that they do molecular medicine not only on one site, but all over France in different basis. It’s quite regional. Besides, the molecular medicine is offered for free, which means patients don’t have to pay for the analysis for their tumor. According to the results, you have the access to drugs which fit the tumor, even the drug which is not registered. This is very specific in France. The only return from their doctors is to enrich a national NCI database with the follow-up of their cancer patient.

CCO: As the expert in breast cancer, could you brief the latest development of drug in terms of breast cancer in your institute (Institute Gustave Roussy)?

Prof. Armand: Actually, drug development is growing rapidly in the four big tumors. In breast cancer, at Institute Gustave Roussy, there is one thing for sure, whenever amplification in fibroblast growth factor receptor (FGFR) is witnessed, you can have an access to a drug which is under the development then and have good result. What is surprising is that this drug is not a French drug but a Chinese drug. It was discovered in Shanghai by SIMM and then moved to France. We did work very hard on it, as when you have a drug, you have to defend it at its early stage. The drug will be back in China, and the name of the French company is Servier, and the university of new drugs in China who handle the drug for China is Fudan cancer center.

CCO: We are excited to found you as the founder of the IGR Phase I Unit (Sitep) in the early 80s, who did the first in human phase I in the world at IGR of numerous drugs. How did you manage that? And what do you think is the most important advances over the past few decades in drug development?

Prof. Armand: A good cancer MD offers more added value in early development than in phase III. I was lucky to
offer the 1st patient in the world, with irinotecan, taxotere, navelbine, suten, oxaliplatin, everolimus, etc., which became later worldwide drugs for cancer.

**CCO:** In 2013 you received the Targeted Anticancer Therapy (TAT) honorary award in recognition of your contribution to new drug discovery in cancer. Congratulations! As Targeted Anticancer Therapy received more and more attention in cancer treatment, what has been achieved in this field and where do you see the future of Targeted Anticancer Therapy goes?

**Prof. Armand:** It is clear we know more on the causes of cancer through the genes alteration, but this is a complicated network. I am not totally convinced that cure of cancer will result only from control of one or two genes.

**CCO:** Would you like to share with us the experiences in drug development of phase I and phase II? In your opinion, how can we expedite drug development?

**Prof. Armand:** I am doing phase I research myself for 40 years. I do work in phase I with hundreds of patients myself and decide very early what will be a real drug in phase III.

As the senior consultant in the IGR (Institute Gustave Roussy), I am now in charge of the support to small European Biotechs more than big pharma. My task is to offer them the facilities to evaluate very early in phase I.

In the expedition of drug development, international cooperation between different scientific cultures and different experiences will improve our results to the benefit of our cancer patients.

I have two examples, we are going to develop in France for phase I, two drugs from the company called “Shanghai New Summit”. They have one drug called TNF, it’s a good drug, we will start next month in Paris. And the other one is another drug called TPO, which increases the thromboplast in the blood. These two drugs will start phase I in Paris next month. So this is the cooperation.

During my visit to China, I have made acquaintance of a Chinese doctor named Yehebali Chi (from Beijing). She is a very excellent doctor for phase I in China, who has been trained for several years in France and now at the CAMS cancer center in Beijing. We look forward to future cooperation with each other as international collaboration is the key in drug development.

**CCO:** How do you envision future cooperation between China and France in drug development?

**Prof. Armand:** Twenty years ago, I used to get new drugs from Japan. Because Japanese was very original. They make new original drugs, and we had new drugs from Japan. And I do believe in the next twenty years, there will be a lot of new drugs from China, and we will develop them in France when China will evaluate French discoveries. This is already started.

**CCO:** Thank you very much!

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