

Pharmacokinetics and multi-cytokine quantification

Reviewed by Rita Silva (ESR11/ESR12)

The third scientific workshop of the TOBeATPAIN ITN took place virtually on September 25th and it was organized by Camilla Svensson as part of the second TOBeATPAIN Annual Meeting. The workshop started early in the morning with a brief introduction of Kancera – a preclinical stage biotech company - given by its CEO, Dr Thomas Olin. Dr Thomas highlighted Kancera's current focus on a CX3CR1 compound (KAND567) and some of the preclinical research the company has done so far to tackle acute and chronic inflammation. Dr Olin also mentioned the initiation of a clinical trial using their drug in Covid-19 patients to study its effect on the immune system. This talk was followed by another one given by Dr Niclas Brynne, PhD and CDO at Kancera, who promptly started the second session. Dr Brynne focused his lecture on pharmacokinetics (concentration vs. time) and pharmacodynamics (effect vs. time) (PK/PD) and explained why PK/PD analysis is key to the development and approval of every drug.

Additionally, in light of recent events and to promote gender and racial equality, the ESRs got the fantastic opportunity to talk and interact with a very successful woman in science (Jennifer Lard, PhD and VP Search & Evaluation at Eli Lilly and Company) and raise several questions about her research roles in academia and industry. To further educate ourselves on these matters, Professor Tor Wagner from Dartmouth College and Professor Liz Losin from University of Miami gave us a talk about their recent paper published on Nature Human Behaviour regarding “Neural and Sociocultural Mediators of Ethnic Differences in Pain” ([Losin et al., Nat Hum Behav. 2020 May; 4\(5\): 517–530](#)). Their talk highlighted the need to understand how ethnic differences contribute to changes in pain sensitivity and how these can be associated with discrimination.

Lastly, Charles Xiyun Chai - Research Scientist at Eli Lilly and Company - gave a lecture on “Neuroinflammation and other protein biomarkers in neuroscience research” and stressed the need for assay validation. Dr Chai detailed several available tools for cytokine quantification and their respective advantages and disadvantages. He also underlined the different parameters to have in account to obtain reliable data when performing this task.

Overall, in my opinion, as part of our training, this workshop proved to be incredibly useful and enjoyable for all the ESRs and I'm definitely looking forward for the next one!