

HISTORY OF CLINICAL PHARMACOLOGY IN FINLAND

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The history is always the history of people, and only people do history!

FIRST SIGNALS AND AWAKENING

When the Second World War was over 1945, we in Finland had only one professor in pharmacology – at the University of Helsinki. In 1947–1948, a professorship was established both at the University of Turku/Åbo and Veterinary High School of Helsinki. The idea of having also clinically-oriented pharmacologists for our medical care might have arisen for the first time around the end of the forties, possibly reflecting discussions in Sweden where the theme had already aroused notable medical interest. However, in Finland the idea on clinical pharmacology did not start to proceed until the early sixties.

There were several reasons to navigate the pharmacology to the clinical direction. Such were – among others – new drug innovations, drug safety, drug industry. Pioneers such as Pentti Peltola, Esko Iisalo and Mauri Mattila imported new ideas from England and Sweden (1965–1968), where modern aspects on therapeutics and drug treatment had already gained academic and even some clinical acceptance. The other pioneers in clinical pharmacology were at least Olli Mustala, Olli Penttilä, Seppo Takki, Pertti Torsti, and some years later also Pertti Neuvonen and Pertti Pentikäinen. Most of our first clinical pharmacologists were clinicians. However, among other clinicians the attitude for clinical pharmacology was seldom favorable. When the Sixth International Congress of Pharmacology was held in Helsinki in 1975, many symposiums and even two of the six Congress Proceedings books concerned clinical pharmacology. Therefore, at that time clinical pharmacology was considered important worldwide, at least among pharmacologists.

DEVELOPMENT AND CURRENT ACADEMIC STATUS

The first chair in clinical pharmacology was established in 1968 at the University of Helsinki. After intensive competition between the two top candidates, Mauri Mattila and Pentti Peltola, President Kekkonen appointed Peltola as the first Professor of Clinical Pharmacology in 1971. A couple years later Mattila was appointed as Extraordinary Professor. He worked in the Department of (basic) Pharmacology but contributed mainly to clinical pharmacology.

Peltola retired in 1985. Thereafter, the competition for the professor's chair in Helsinki was again very intensive between the two top candidates, Markku Linnoila and Pertti Neuvonen. Finally, President Koivisto appointed Linnoila as Professor of Clinical Pharmacology in 1988. Linnoila was a very meritorious alcohol scientist living in the US. He did not quite take care of the professorship and finally left the position in 1991. Then the Medical Faculty invited Pertti Neuvonen, who was Professor of (basic) Pharmacology in Turku, to Professor of Clinical Pharmacology in Helsinki. He retired three years ago but still keeps working actively. Nowadays there are two professors in the Unit of Clinical Pharmacology in Helsinki: Janne Backman is Professor of Clinical Pharmacology and Mikko Niemi Professor of Pharmacogenetics.

The Department of Clinical Pharmacology and its laboratories have always located in the Meilahti campus. There have been activities and offices both in the University buildings and University Central Hospital. The Unit has cooperated actively e.g. with the national Poison Control Center.

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At the University of Turku/Åbo, internist and pharmacologist Esko Iisalo had been Docent of Clinical Pharmacology already since 1964. However, the professor's chair was not established in Turku until 1983, despite that it had been proposed for the first time already in 1966! Esko Iisalo then became the first Professor of Clinical Pharmacology (1985–1993). After Esko, Mika Scheinin continued as the professor 1995–2004, and after him Risto Huupponen since 2007.

In Turku, clinical pharmacology has also some offices and clinical activities in the University Hospital. Now, clinical pharmacology operates in a part of the well-recognized Department of Pharmacology, Drug Development and Therapeutics. It cooperates actively especially with Clinical Trial and PET Centers in Turku.

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In Tampere, the drug companies Tamro, Star and Rohto donated in spring 1987 the financial resources to the University for the first five-year period of the professorship in the field of clinical pharmacology and toxicology. The University promised eagerly to take care of the expenses later on but did not establish the chair until 1989. Then, from nine candidates, Pauli Ylitalo was appointed in 1992 as the first Professor of Clinical Pharmacology and Toxicology. After him, Kari Kivistö was the professor 2007–2013. Today, there is no professor's chair in Tampere; instead, two specializing physicians are taking care of the education. Recently, clinical pharmacologist Reijo Laaksonen was appointed as research professor at the University Hospital, but principally he has no responsibility for clinical pharmacology.

From the early nineties to the last decade, clinical pharmacology had an office and laboratory room(s) for clinical drug measurement in the University Hospital.

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Interestingly, at the new University of Kuopio, a professorship in clinical pharmacology was planned to be established already before any education had started in 1972. However, it was not established until 2005. It belonged to the Faculty of Pharmacy. In the earlier decades, the professor of pharmacology and docents taught clinical

pharmacology and pharmacotherapy, except for eighties and early nineties when clinical pharmacologist Pauli Ylitalo acted in Kuopio as Professor of Toxicology and Pharmacokinetics and took care of the education. The first Professor of Clinical Pharmacology in Kuopio was Risto Huupponen 2005–2006, followed by Tapani Keränen to 2013. Nowadays, Kuopio has no professor in clinical pharmacology.

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The Medical Faculty in the University of Oulu is the only one in Finland where there has never been the higher academic position in clinical pharmacology.

EDUCATION

Systematic education to medical students was started in the early sixties in Turku and then also in Helsinki. The training has been an obligatory part of the curriculum in all medical faculties for almost four decades. Its volume has generally varied from two to three credit weeks. Kuopio has also organized large courses of Pharmacotherapy and Pharmacokinetics to students of pharmacy since the seventies, and Tampere has been responsible for training of Drug Prescription and its national rules to every doctor emigrated from outside of ETA countries.

A beautiful highlight of Finnish clinical pharmacologists was to write a national Textbook of Clinical Pharmacology. The book was finalized in 1994, after which it was followed by the first and second editions of a textbook of Clinical Pharmacology and Therapeutics.

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In Finland, Clinical Pharmacology has been an independent and official specialty for medical doctors since 1966. Since the seventies the training program has lasted for six years, and the specialty is granted after a written examination. Thirty-three of the present specialists have been trained and specialized in Helsinki, 9 in Turku, 8 in Tampere, 3 in Kuopio, 2 in Oulu and 1 in Norway.

SCIENCE

In science, especially Helsinki has gained an excellent international status. The main interest has been in pharmacokinetics, drug interactions and pharmacogenetics. The top chef of the projects, Pertti Neuvonen, has won several esteemed awards. Moreover, we should be thankful to Pertti for leading the national Clinical Drug Research Graduate School and its financial resources since the middle of nineties, at the time when the whole Finland suffered still from financial crisis originated in the early nineties.

In Turku/Åbo, the research has been also profitable. It has focused at least on cardiovascular drugs, pharmacokinetics, central and autonomic nervous system, diabetes, PET-derived findings and clinical drug trials.

In Tampere, cooperation with clinicians has been intensive, and scientific production on pharmacokinetics, cardiovascular drugs, and chemotherapeutics has been about modest.

In Kuopio, early clinical studies were essentially of pharmacokinetic nature, while later on neurological drugs have been of more interest.

In Oulu, the best-known study projects have concerned cardiovascular drugs and drug metabolism in liver, placenta and fetus.

HEALTH CARE, AUTHORITIES, INDUSTRY

Today, the number of specialist physicians in Finland is 55. Fifteen of them are on pension. Forty are in full-time work, but only 16 of them are full-time clinical pharmacologists. Twenty-four others are mainly clinicians in large hospitals, 18 of them having an additional specialty. Many of these clinicians advise in therapeutic tasks, consult in drug problems and contribute e.g. to the selection of drug assortments in the hospitals. Therefore, their expertise in clinical pharmacology is of an extra benefit for the hospitals, which do not consider it necessary of having the full-time clinical pharmacologists. Even drug industry has adopted only a couple of clinical pharmacologists, but it has recruited many of the less-trained physicians having "Special Competency in Pharmaceutical Medicine".

FINNISH SOCIETY FOR CLINICAL PHARMACOLOGY

The Section of Clinical Pharmacology acted within the Finnish Pharmacological Society since 1980 until the Finnish Society for Clinical Pharmacology was founded in 1994. Without any delay, the Finnish Society joined the European Association for Clinical Pharmacology and Therapeutics and was then justified to act as an independent member in the Meetings of EACPT, even before the first European Congress of Clinical Pharmacology and Therapeutics in Paris in 1995.

FINAL NOTE

The history of clinical pharmacology in Finland is five decades long. In education and research the discipline has gained a notable status, but in health care system it has not achieved such acceptance as we have expected still two or three decades ago. Let us hope that in the next future we will find even more such credits which also the Finnish health care would consider of great clinical importance.