The Role of Clinical Pharmacology in the Rational Use of Drugs

Folke Sjöqvist, MD, PhD, FRCP

Department of Medical Laboratory Sciences and Technology, Division of Clinical Pharmacology, Karolinska Institutet at Huddinge Hospital, SE-141 86 Huddinge, Sweden

The functions of clinical phamacology (CP) were defined already 30 years ago by WHO as follows: "To improve patient care by promoting the safer and more effective use of drugs; to pass on knowledge through teaching and to provide services, such as drug information, drug analysis, the monitoring of drug abuse and advise on the experimental design of clinical drug studies. All these functions should in fact serve to enhance the benefit-cost rations of drugs" (WHO Technical Report Series, No 446, 1970).

Academic CP is both a research discipline and a clinical specialty. The former is interdisciplinary while the latter implies a specified training of MDs towards formal specialty. One may also divide CP in drug-product oriented (industry) and society-oriented branches (academia).

There are certain common characteristics of an academic clinical pharmacologist such as: focus on drug research, not on diagnostics, focus on the principles in the rational use of drugs, broad general knowledge in CP rather than competence restricted to a single pharmacotherapeutic area, publishes in CP journals participates in CP congresses, central role in drug education and drug information, pharmacopolitical visibility in the society, having an impact on drug utilization in the society.

Each medical school and each country have to find the must suitable organization of CP adopted to their specific needs.

The four decades of CP have different profiles. The first 10 years(1960-1970) were dominated by the introduction of the controlled clinical trial, the increasing awareness of adverse drug reactions and the development of drug metabolism and pharmacokinetics as clinical research disciplines. The next 10 years (1970-1980) focussed on concepts such as drug interactions, pharmacogenetics, therapeutic drug monitoring, improved drug evaluation and drug utilization research. The period 1980-1990 saw the development of pharmacoepidemiology and pharmacovigilance, the individualization of drug dosage schedules drug information and auditing of drug therapy. The last 10 years are dominated by the applications of molecular biological techniques in pharmacogenetics, by evidence based pharmacotherapy and by pharmacoeconomy.

The future of CP will see an increased rate of drug development based on pharmacogenomics, reformed drug education, quality control of drug therapy and an increased impact of drug formulary committees on the use of drugs in the society.