The roles and responsibilities of Clinical Pharmacology

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Clinical Pharmacology is perhaps the youngest of the established medical disciplines. It was forged in the late 50s and early 60s by Lasagna in the USA (Lasagna, 1959), Laurence in the UK (Laurence, 1964) and Sjöqvist in Scandinavia (Sjöqvist, 1966). By 1970 it had been recognised by WHO (WHO, 1970) and in the same year the British Pharmacological Society founded a Clinical Pharmacology Section which then launched the British Journal of Clinical Pharmacology. Since then clinical pharmacology has continued to develop in the UK. In most medical schools the subject is now examined separately in the final qualifying examination; the Colleges of Physicians have produced guidelines on higher medical training for clinical pharmacologists; there are at least 70 university/NHS posts in clinical pharmacology in England and Wales (Health Trends, 1988) and the discipline is well represented in the pharmaceutical industry.

This progress might appear enviable to outside observers, but many insiders feel less secure. The discipline has been heavily criticised (Bonati, 1984; Lancet, 1985; Mitchell, 1984), academic career prospects are poor, the predicted expansion of the discipline in general hospitals has not materialised and its place in industry seems uncertain. Some clinical pharmacologists even question whether they have a common purpose. In brief, clinical pharmacology is suffering an identity crisis.

The British Pharmacological Society Symposium

It was in this atmosphere that the Clinical Section of the British Pharmacological Society held a symposium on 'The Roles and Responsibilities of Clinical Pharmacology'. The symposium, part of the society's winter meeting at St George's Hospital Medical School on 18 December 1990, attracted over 250 participants. The clinical section has approximately 650 members who either practise clinical pharmacology or wish to keep in touch with the subject. Four hundred and eighty members are based in the UK or Ireland and their addresses suggest that 253 work in universities, 54 in the NHS, 107 in industry, and 9 in government; 57 give a home address (Routledge, personal communication).

The meeting was chaired by Professor Bill Asscher, not an active clinical pharmacologist himself but a member of the Section, and a close observer as Dean of the host medical school and chair of the UK Committee on Safety of Medicines. He had noted three signs that all might not be well with the discipline—many trainees seemed to leave it; academic constraints appeared to be

heavy, with some clinical pharmacologists dropping their titles and becoming professors of medicine; and it attended to too few topics, e.g. there was too much concern with hypertension and pharmacokinetics, too little with tropical diseases or pharmacodynamics.

Providing services

Six speakers addressed the meeting. Professor Folke Sjöqvist, from the Karolinska Institute in Stockholm, dealt with the role of clinical pharmacology as a service provider. Over 20 years he has gradually built up a formidable service unit at Huddinge Hospital which, like other similar units in Sweden, has three major tasks. Sjöqvist described the first two as 'preaching and teaching'—to prevent irrational use of drugs and needless hospitalisation resulting from drug use, and to take responsibility for educating and informing health personnel about drugs. The third is to facilitate the individualisation of drug dosage schedules. Sjöqvist stressed that the service, which was heavily supported by computer technology, was orientated towards society rather than to products, and this he felt was fundamental to its work. The admitting doctor must recognise that 'there is not a single disease that can match the unwanted effects of drugs', and it was for clinical pharmacologists to minimise the likelihood of such effects which mainly resulted from inappropriate prescribing. Sjöqvist warned that many drug trials were a waste of time and argued that precious public resources would be better used by giving advice and information. In addition to working at a national level his unit offered local advice and help on matters such as patient care, drug utilisation programmes, adverse drug reactions and drug concentration monitoring. He argued that this sort of service was the proper domain of clinical pharmacology, and that other clinical specialties were neither interested nor expert enough to provide it. Asked about the role of pharmacists, Sjöqvist said that they played an essential and valued part in any clinical pharmacology service, but emphasised that clinical pharmacology with its focus on knowledge of drugs and drug utilisation is the bridge between the clinician's knowledge of diagnosis and the problems of patients and the pharmacist's knowledge of drug products.

Other aspects of this service theme were discussed by Professor Michael Rawlins (Newcastle) who tackled the roles and responsibilities of clinical pharmacology in government and Health Service management. He argued that clinical pharmacologists have played and are playing a critical part in central government regulation in the UK, and will now increasingly contribute to local regula-

tion affecting regional management down to the individual GP. Regarding central government he had no doubt that the discipline provides the Licensing Authority with vital expertise both within the Medicines Control Agency itself and also in many of its Advisory Committees. Much of the information that the Licensing Authority has to interpret is of course generated by clinical pharmacological research.

Local control was now changing fast and he believed that clinical pharmacologists must meet the challenge to provide the advice needed in formulating local drug policies. He cited his own experience in the Northern Region of England where clinical pharmacologists are now contracted to run a regional centre providing drug information, a poisons unit, advice on allocation of resources, drug use reviews, drug use monitoring and an educational and training service. The annual budget for all this work will be around £400,000. It was important in these activities for clinical pharmacologists to act as 'therapeutic referees' and not as 'therapeutic policemen'.

A third speaker, Professor Sir John Vane, formerly at Wellcome but now director of the William Harvey Research Institute at St Bartholomew's Medical College, tackled a very different issue: the roles of clinical pharmacologists in the pharmaceutical industry. He recognised that clinical pharmacologists had an important place in the development of medicines but questioned whether they were used in the best way. Whatever their functions it is conventional for clinical pharmacologists in industry to be grouped together under one directorate, but he considered this wasteful. Those who perform pharmacokinetic and dose ranging studies have different personalities and interests from those concerned with marketing, which again differ from those devising and developing techniques for the early assessment of drug activity. Lumping them together led to conflicts, and Vane thought they should rather be organised in 'friendly chunks' so that, for instance, those involved in research methodology should work closely with the company's basic researchers and under a research director for the particular project. Others might report to the development director.

Research and teaching

Two speakers dealt with academic pursuits; Professor David Grahame-Smith (Oxford) with research, and Dr Larry Ramsay (Sheffield) with teaching. Clearly university departments of clinical pharmacology had to undertake research that could be used for the service and governmental aspects of the profession—pharmaceutical, pharmacokinetic, pharmacodynamic, therapeutic (both experimental and clinical), benefit/risk studies, work on adverse reactions, pharmacoepidemiology, and indeed to link all these. In addition, however, they must be prepared to study the 'endogenous pharmacology of disease' (e.g. mediators in asthma, receptor changes in psychiatric disease) and also to provide an intellectual environment both for the discipline itself and also for those from other specialties who needed to use its techniques. Grahame-Smith was concerned about the funding of such developments and argued for increased university support and a closer collaboration with industry in 'united' research, i.e. that which is

purely academic and without immediate commercial value. The predominance of contract research and posts funded with soft money also meant that there was no proper career structure for new entrants to clinical pharmacology. Grahame-Smith also thought that clinical pharmacologists had concentrated their efforts in too few fields such as hypertension and asthma. If they did not broaden their research by working on topics such as diabetes, arthritis, cancer chemotherapy, antibiotics and biotechnology generally, then the subject ran the risk of 'becoming ossified'.

Ramsay argued for a complete review of the teaching of drug related issues during medical training. He blamed the current system of teaching for the fact that doctors were not 'streetwise practical prescribers'. The doctors we trained did not know how to cope with new drugs or with the pressures of commercial promotion, they often prescribed irrationally, were unaware of the cost implications of their prescribing, and did not seem to know where to turn for help. He thought that none of this was surprising since the curriculum was packed with information about basic pharmacology, with little attention to practical therapeutics. The system needed a complete overhaul. The course should be designed to serve the needs of therapeutics rather than to pursue the interests of basic pharmacologists. A related problem is that the great mass of prescribers have no clear idea what clinical pharmacology is, because therapeutics has dropped out. It was high time to put therapeutics back in. Many in the audience accepted that there was some truth in these arguments.

Communication

Finally Dr Joe Collier dealt with the issue of the relationship between clinical pharmacologists, the public and the media. He argued strongly that whatever their different backgrounds, one feature common to all members of the specialty was the duty to communicate. As teachers we had a duty to communicate with our students, as doctors a duty to communicate with our patients, and as scientists with the public. In many instances this meant a responsibility to work with all branches of the media. In this way not only would the public gain greater understanding of drugs and drug usage, but in addition it would help make the public aware of the work of the discipline and its significance.

Conclusion

For most of the participants this was the first attempt to take a broadly comprehensive look at clinical pharmacology and to develop a vision of its future. The discipline has many diverse tasks. Are they too disparate to be the domain of a single discipline? Some felt that the Society should seek ways of unifying clinical pharmacology. Others wanted the discipline to expand to respond to the many tasks, working to ensure that funding and career structure were such as to allow academic departments to build up a critical mass. Ways of increasing mass would be to forge closer cooperation with industry, local health service management, and with basic scientists. Small

isolated units consisting of one or two clinical pharmacologists might prove counterproductive. In addition to such 'structural' changes the discipline must become

increasingly prepared to communicate its activities; the need for understanding between the public and the profession is mutual.

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