Improving the quality of Ph D students in Indian universities

Gupta has given some valuable suggestions for admission, monitoring and examination of Ph D candidates in Indian universities. It is a well-known fact that nobody fails in a Ph D examination and the results are 100%, irrespective of the quality of the research output.

In the Physics Department at Guru Nanak Dev University, Amritsar we introduced some innovations during the 1980s for registration of Ph D candidates and some universities are following the same pattern now. A Ph D candidate must choose his own supervisor after interacting with the faculty members. He will be first enrolled as a Ph D student and only after he has proven his worth by publishing the results of his research work in some refereed journal, will he be registered for a Ph D degree. Before submission of thesis a candidate should give a research seminar where the faculty members along with his supervisor will judge his work. If the candidate has produced four to five research publications in reputed journals, the condition of holding any written or oral examination should be waived. After all, what are we going to judge by submitting a Ph D thesis of 200 pages with literature survey and experimental techniques, if it is a mere repetition of the work already reported in literature. This procedure was followed in most of the universities in France when I wrote my doctoral thesis in 1972. A candidate was asked to submit three copies of his research publications with a brief introduction on the theme of his research project. The supervisor of the candidate also acted as one of the examiners and the viva-voce was open to public.

Digital database of plant diversity: Call for collaboration

Realizing the need for and the importance of documenting biological diversity of the country, we have embarked on the task of compiling a digital database on the plant diversity of India. As a part of the programme, we have been assembling the images of the specimens from various herbarium collections. As a first step, we are digitizing the specimens available at Center for Ecological Sciences and Foundation for Revitalization of Local Health Traditions, Bangalore. Indian plant specimens at Kew Botanical Gardens, UK, Harvard University and Missouri Botanical Gardens, USA are also being digitized.

We wish to extend our programme to include other herbarium collections maintained in different centers of the country. In this connection, we appreciate the centers having their own plant collections providing us the opportunity to digitize the images of the specimens with the following arrangements.

The images captured will be made available to the center along with the Image Manager program developed by us for this purpose.

Source credit for each image will be provided in the final database with details on the herbarium, collector and such other information.

We offer access to the herbarium images collected by us from other centers as well.

Nimesulide

Nimesulide, a simple nonsteroidal anti-inflammatory drug (NSAID), has been very much in the news recently and has figured in an insightful editorial of Balaram and a balanced article of Kulkarni. Having been associated with its development in India, I wish to offer a few further remarks.

Nimesulide is chemically N-(4-nitro-2-phenoxyphenyl)methane sulphonamide and belongs to the class of sulphonamides. These were synthesized by Riker Laboratories in USA and patented (US 3,856,859; 24 December 1974) as analgesics, antipyretics, herbicides, inflammation inhibitors and microbicides. It was originally licensed to Helsinn Health care SA, a private company in Switzerland, for worldwide development and marketing. It was first introduced in Portugal in 1985 by Labs Biopharma. The useful anti-inflammatory-analgesic properties of nimesulide appear to have attracted the attention of Boehringer Mannheim who probably licensed it from Helsinn and conducted advanced biological studies and large-scale clinical trials. The results were announced in a symposium, the proceedings of which were published. These investigations con-
CORRESPONDENCE

firmed the analgesic–anti-inflammatory activity of nimesulide and highlighted its
gastric tolerability, a well-known problem of classical NSAIDs. This must have given a fillip to Helsinn to license it to many other markets, which today number forty-four. In 1995, nimesulide was reported to be a preferential inhibitor of COX-2 over COX-1, providing a scientific rationale for its better gastric tolerability. This aspect was picked up by several investigators, including the author. Inadequate resources of Helsinn for creating mandatory data for an NDA in USA, the expiry of the patent in 1994 and the late association of Boehringer Mannheim may have been the reasons for nimesulide not being registered in USA, which has the dubious distinction of being the single largest pharmarket, and other countries with sizeable pharma sales like Australia, Canada and the UK, rather than any lurking reservation on its safety. Incidentally, it is ironic to note that even in USA which is noted for its high standards of scrutiny of drugs for registration, there have been withdrawals of blockbusters due to late discovery of adverse affects, viz. the anti-diabetic drug, troglitazone and a few others in recent times. This does not necessarily imply a laxity on the part of the FDA. Rather, it indicates the inexorable sway of statistics. No matter how large the clinical experience of a drug is prior to introduction, the numbers will be inevitably smaller than those who will be actually using it post-introduction.

Nimesulide was given marketing permission by the Drugs Controller of India (DCI) in 1995. It became popular quickly and captured a sizeable portion of the analgesic–anti-inflammatory segment. It is a relatively simple molecule, made easily from indigenous available raw materials. Over the years, it has been the target of intense competition from a few manufacturers. The price of the bulk drug has fallen to about Rs 400–500 per kg and the formulations have become affordable accordingly. In spite of its wide use, there have been no well-documented, sustained reports of alarm about the drug, although there was a mild scare in the early days of its marketing.

The current situation seems to have arisen because of hepatic adverse reactions encountered in a few patients in Finland. This country, Spain and Turkey, as a measure of abundant caution, have imposed a temporary suspension of nimesulide formulations. However, as a letter of M/s Helsinn to Chronicle Pharamaz of 19 December 2002 states, 'in more than 18 years of marketing experience and based on more than 346 million treatment courses, nimesulide has proved safe and effective in the treatment of a wide range of conditions, including osteoarthrosis, painful extra-articular disorders such as tendinitis and bursitis, acute painful inflammatory states of different aetiology such as respiratory tract infection, post-operative pain, etc.'

It is a fact that post-marketing surveillance of drugs is not as widely practised in India as in the more developed countries, although several regional centres to collect such information have been created in recent times. The DCI is well-apprised of the nimesulide case and has appointed a committee to look into its safety. In this context, it is important to keep the cost–benefit–risk relation in view. Affordability, demonstrated efficacy and extensive usage with no reports of serious adverse reactions in more than seven years in India are key factors in favour of nimesulide. There have been recently introductions of COX-2 inhibitors of high specificity like celecoxib and rofecoxib which are reported to have a high degree of safety. In India, their prices are higher than the formulations of nimesulide, but they have been deliberately not far too over-priced. The current scare about nimesulide may not be unrelated to commercial rivalry, viz. the perpetual row between saccharin and aspartame which pops-up once every few years. It must be mentioned that the new generation of highly specific COX-2 inhibitors is not devoid of side effects and the likelihood of one or the other getting under a cloud cannot be ruled out. But this should be no reason for lowering our guard with respect to nimesulide.

In this context, I am reminded of the story of meforma which created a considerable stir in the 1960s. This drug of CIBA contained clioquinol as a significant component and has antidiarrhoeal and bowel-regulating properties. The drug was used widely in India and many other countries, and was in fact a mandatory member of the prophylactic kit that the Western traveller carried when stepping into developing countries. The drug had no reports of adverse reactions generally, but in Japan, it came to be associated with a serious pathological condition called SMON (sensory myelo-optical neuritis). Although no cause–effect relation could be rigidly established in Japan between the use of meforma and the occurrence of SMON, CIBA went through a costly, long-drawn court battle and finally closed the issue after a substantial financial settlement. Subsequently, the company withdrew the drug worldwide. The DCI was appreciative of the efficacy of the drug and was not unduly worried about its safety and suggested that CIBA could continue to sell it in India with a warning label. But the company refused to do so. However, one brand of clioquinol is still available in the country and the author believes in this drug as well as in nimesulide. It needs to be emphasized that adverse reactions to drugs can have genetic origins as one among several factors.

Finally, although it is not relevant to the topic, I wish to add a comment on Balaram’s editorial remarks on the infamous teratogenic drug, thalidomide, which has been recalled from banishment for new uses in leprosy and cancer. This drug has been allowed by the DCI for use only in accredited hospitals and institutions under careful control and in principle, should not be found on the shelves of pharmacies wherefrom they can be sold freely to baroties of self-medication along with throat lozenges and tummy-ache pills!


K. NAGARAJAN

Hikal R&D Centre,
Bannerghatta Road,
Bangalore 560 076, India
e-mail: n_kuppuswamy@hotmail.com