

TRAINING ABROAD IN CORONARY INTERVENTION: A CANADIAN EXPERIENCE

Support from the Myre Sim Bequest gave me the opportunity to go abroad for further training in coronary intervention with an attachment as a clinical Fellow to the Toronto Hospital for one year. During this I took part in the procedures of coronary balloon angioplasty, directional atherectomy, rotational atherectomy, coronary stenting, intracoronary ultrasound and also in some research.

Obtaining a year of training abroad is increasingly difficult. The hurdles to be mounted before it is possible are increasing. Canada is no exception. Because I held a senior registrar post I was exempted from some of the requirements for an educational license in Canada, and this allowed me to perform clinical work in an educational program. Otherwise I should have had to pass an evaluating examination (equivalent to undergraduate MCQ finals) before licensing. Then followed approval by the University, Employment Canada and Immigration Canada for an Employment Authorisation Visa and, finally, a medical health examination. The process took approximately nine months. The competition to obtain support funds in the United Kingdom is stiff but not impossible. On the other hand posts in programmes that are accepted in Canada are usually funded at the level of a clinical salary.

The Toronto Hospital has five cardiac catheterisation laboratories on two sites. There are approximately 6,000 diagnostic or therapeutic procedures performed each year, of which 1,000 are percutaneous coronary interventions, the focus of my clinical fellowship. With only two other Fellows in the programme it was easy to achieve the goal of 300 interventions in a year. A further 1-200 diagnostic catheterisations in patients presenting with a cardiovascular emergency were also easily achieved. The experience is concentrated and supervised by a group of high volume operators. The staff cardiologists are all interested, ready to teach and variably demanding but always rewarding to work with. There is a busy programme of meetings in medicine and cardiology each day. With twenty-eight members of the cardiology staff, these meetings are well attended. They cover all aspects of cardiology. In contrast to the position in the United Kingdom there is sub-specialisation within cardiology. The group whose principal interest is coronary intervention numbered seven out of the twenty-eight.

Clinical practice and training contrasts with that in the United Kingdom. In Canada patients arriving at a clinic see a fully trained doctor. That may be in conjunction with a junior doctor in training, but never a junior without a staff member. Indeed only university hospitals have junior doctors and fellows, and all have to be in a recognised, accredited university programme. There is dedicated time for seminars, bedside teaching and numerous meetings. Time is protected for doctors in training to attend these meetings and for staff members to teach. This is in contrast to the United Kingdom where much training takes place in small hospitals, with little supervision, and without time for junior or consultant alike to create or attend daily education meetings. Furthermore when as a junior doctor you enrol in a training programme in Canada it is for 3 to 5 years, depending on the programme, and the incumbents are in what in the United

Kingdom are now recognised as rotational training posts. The job and social security allow the individual to concentrate on the training at hand. There is no need to start applying for the next post immediately and waste time renting or buying, then selling and moving accommodation with every appointment. Compare these circumstances with the 'appalling working conditions and extraordinary training schemes', 'the pressure for research', the . . . constraint . . . (of) the need for mobility' of training in the United Kingdom described by Forth-Cozens (BMJ 1994; 309: 1524-5).

Research opportunities abound. Within the year I was able to complete a study comparing restenosis after directional atherectomy with angioplasty. This was facilitated by a previously published data base. I also completed a collaborative science project in a porcine double balloon injury model of coronary restenosis, the analysis of which is continuing.

This was a most enjoyable and profitable year. The people of Toronto are hard-working but are nevertheless easy going, friendly and welcoming. There is much there by way of theatre, film and other cultural and sporting entertainment and facilities for participation. I recommend the seizing of any opportunity to work abroad for a year. Plan early, even while still a student. Take American, Canadian, Australian and possibly other qualifying examinations that you can afford (they all cost cash) as a student. It is very hard sitting these ten years after graduating and after years of specialisation.

P. H. SEIDELIN

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WESTERN MEDICINE AND INDIA: A VIEW FROM AGARTALA

Although among the 900 millions of India, ancient Ayurvedic, Unani and Hakeemi systems of medicine are cultural traditions, Western medicine has become popular and its remedies widely prescribed. Western medicine developed in the search for remedies of diseases common in the west. It was introduced in India during the period of British rule and, though highly effective especially in infective diseases, has its limitations. In degenerative diseases, most cancers and in some other ill understood illnesses, it can only offer symptomatic relief; it is expensive and usually dependent of sophisticated laboratory tests and high tech investigations which in some countries are unaffordable except by the wealthy. The cost of high tech medicine is the reason why in the USA and many European countries governments are trying to shift the emphasis of health care back to prevention and to management in the community by well trained primary care physicians, and away from secondary and tertiary care at high tech hospitals and sophisticated diagnostic centres with their soaring costs. If better primary care is provided in the treatment of hypertension, diabetes and obesity in their early stages, if proper advice is given in respect of diet, the value of stopping smoking and of regular exercise, the incidence of coronary heart disease in the nation may be drastically curtailed. Demand for high-tech expensive investigations and treatments such as coronary angiography, angioplasty and by-pass surgery may consequently be reduced, and the nation's resources could be diverted to other developments.

All this is particularly applicable to India. Most Indians live in rural areas where infectious diseases, dysentery, typhoid, cholera, malaria and nutritional

disorders such as anaemia, night blindness and other avitaminosis, osteomalacia, rickets, marasmus and kwashiorkor are common. Their need is for health education, advice about hygienic living and adequate nutrition. Effective drainage and sewage and a constant supply of pure drinking water must be ensured. India's rural economy must improve. High-tech medicine utilising magnetic resonance imaging, CAT scanning, echo-cardiography and angiography, are of limited importance to the rural masses of India. Many rural Indians still believe that a doctor can cure any illness, if he so wishes, and that hypertension, diabetes, bronchial asthma and osteoarthritis can be cured by a course of medicine taken for a few weeks or months. They cherish an idea that X-rays, electrocardiograms and other special investigations have curative value in addition to diagnostic virtue. Some unscrupulous professionals take advantage of these fanciful ideas and exploit the educationally deprived members of society by doing expensive tests without any valid indication. The practice of modern western medicine seems inappropriate and irrelevant in a society where the majority of people still have a long way to go to be favoured by knowledge and wisdom. Such is the low literacy rate and high poverty level of India, this is not surprising.

In recent years there has been a mushroom-like growth of sophisticated diagnostic and treatment centres in urban India established by entrepreneurs and industrialists to serve the middle class and more affluent sections of Indian society. In such centres expensive and invasive tests are carried out before establishing a working clinical diagnosis and sometimes even without involving a fully trained physician. It is not that such institutions are wholly inappropriate for the country but currently the national priority must remain the improvement of the health of the ill-fated and deprived rural population.

As the alternative forms of therapy such as homeopathy, ayurvedic, Hakeemi and Unani are less expensive and more familiar to Indian villagers, at this stage these traditional systems could be further developed and promoted to the rural population when the country's economy is still miserably inadequate. Medical education in India should be targeted to the prevention and management of the illnesses common in rural areas. In both undergraduate and postgraduate curriculum, more stress should be placed on clinical diagnosis with minimal dependence on X-rays and expensive tests which may not be readily available or affordable in rural areas. For the time being India should not blindly follow the western system of medicine; it is not appropriate while we are unable to fulfil the bare necessities of vast numbers of poor people on the subcontinent.

S. K. DATTA

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TUBERCULOSIS AND HIV INFECTION IN SOUTHERN AFRICA

A conference in Botswana in November 1994 heard from the WHO representative, Dr A Kochi, that, out of the world population of 5,700 million, 1,900 million (one third) were estimated to be infected with *M. tuberculosis* and 14 million with HIV. Of the 5.6 million people worldwide, thought to be infected with both HIV and TB, about 75 per cent are in sub-Saharan Africa. The number of new cases of TB worldwide is projected to rise from 8 million in 1990 to 12 million by the year 2000. Patients coinfecting with HIV will contribute an increasing proportion of the total number of new TB cases, up to 14 per cent in

the year 2000. In developing countries, tuberculosis predominantly affects the economically productive age group from 20–45. The amount of foreign aid spent on tuberculosis is inappropriately low for the scale of the problem in view of the cost-effectiveness of treatment. WHO strategy is to strengthen national control programmes. A poor quality programme may be worse than no programme at all, since it generates partly treated chronic cases with a consequent increase in transmission and drug resistance. Rising drug resistance threatens to convert a treatable epidemic into an untreatable epidemic. HIV has had a big impact on the spread of tuberculosis on account of increased susceptibility of HIV-infected persons to develop the disease with increased levels of drug resistance and drug reactions, increased recurrence and mortality rates and decreased patient compliance and programme efficiency.

Dr Eriki (WHO Brazzaville) provided estimates for the scale of the problem in Africa. In the population of 550 million in 1992, 171 million were infected with *M. tuberculosis*, 8.5 million with HIV and 4 million coinfecting with TB and HIV. An individual infected with HIV runs an estimated annual risk of developing TB of about 5–10 per cent and a lifetime risk of about 50 per cent. For the decade 1990–2000 in Africa the estimated cumulative total of TB cases is 15 million (3.5 million HIV-related) with 6 million deaths. The HIV seroprevalence in TB patients varies throughout Africa, with estimates of 20–29 per cent in Kenya, Zaire and Burkina Faso, 30–49 per cent in the Central African Republic, Cote d'Ivoire and Zimbabwe, and over 50 per cent in Burundi, Malawi, Uganda and Zambia.

D. MAHER

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WELSBY'S WISDOM: NO. 1

One of the problems of being a clinical specialist who also gets put on (or upon) for general medicine is the expectation that I am not only expert in all aspects of my speciality but also proficient in general medicine. In the past specialists were, I suspect, able to concentrate more on their speciality and rely upon junior staff for management of general medical conditions but now with the British Health Care Reforms this support is much reduced which exposes the clinical specialist's lack of knowledge. I took some pride in having maintained some insight into most aspects of medicine. That was until I attended a meeting on the molecular biology of hepatitis B and C.

As a student, I sometimes wondered if biochemists were making it all up—there seemed to be no macroscopic and therefore easily visible evidence, 'Did anyone actually see Hans Krebs cycling along to the Embden-Mayerhof pathway?' This wonderment has now been replaced by bewilderment. Stated simply, the comprehensibility of molecular chemistry is rapidly vanishing over the horizon while hyperintelligent practitioners of this arcane art deliver patently erudite talks on apparently patentable developments.

The slides were of such complexity that I succumbed to an attack of acute fulminant MEGO (MEGO for readers who have not read my unpublished textbook of obscure syndromes, is the acronym for 'my eyes glazed over'). Some slides resembled rainbows (at the end of which there is probably a pot of gold for the fortunate drug companies whose researchers strike lucky). Other slides detail-

ing nucleic acid sequences were explicit, but impossible to assimilate instantly and had a complexity similar to that of the London Underground maps. The lecturers confirmed my ignorance by claiming (I presume correctly) 'as you can see there are several interesting sequences of major significance' (I looked in vain) or 'comparison of this (to me totally incomprehensible) slide with the previous one (equally incomprehensible) confirms dyshomogeneity of T cell epitope alleles in Italian type 2 hepatitis C' or 'EBV strains in PNG have mutations stopping binding of peptide to HLA-A11' (it turned out that PNG was not polynucleic granules but Papua New Guinea).

My increasing depression was only reduced by the realisation that the speakers would probably not be able to differentiate clinically between gallstones and hepatitis as a cause of jaundice. Nevertheless my intracranial computer kept on flashing up "SYSTEM OVERLOAD, PLEASE REBOOT AND GO FOR A CUP OF TEA". I rebooted but depression returned after tea when I overheard a (molecular person) remark how clear the lectures had been.

On return to my normal duties my colleagues asked what I had learnt from the meeting. My reply? 'As the result of recent research my confusion is greater than ever. Molecular medicine is like magic. Only wizards can understand it'.

P. D. WELSBY

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COLLEGE LITERATURE

The History of a Genetic Disease, Duchenne Muscular Dystrophy by A. E. H. Emery and M. L. H. Emery (Royal Society of Medicine Press, 1995). This is a scholarly book with 378 references covering the years 1830 to 1995. It is also an immediately attractive book because of the 64 pictures of the men who have elucidated the nature of the disease and of some of their patients. Naturally all the patients are male, but there are two pictures of ladies, one a charming portrait of a molecular biologist born in 1951, the other of one of the authors on her hands and knees in a London cemetery tending the grave of a physician who had died in 1880. The first half of the text, 146 pages covering the years 1830-1950, is an account of the gradual establishment of the disease as a distinct clinical entity, its hereditary nature and the differential diagnosis. All physicians can enjoy reading this and can appreciate the clinical skills of their forefathers. The second half, on the molecular biology leading up to the possibility of effective prevention, is often tough going and best suited to a young physician contemplating entering the field of medical genetics.

R.P.

Letters to the Editor

LANGUAGE, THE TOOL OF THOUGHT

Sir, May I comment on your Editorial on *Language, the Tool of Thought* (*Proc. R. Coll. Physicians Edinb.* 1994; **24**: 477-479)?

None would dare question the significance of the contributions made by Johannes Gutenberg and William Caxton to the use of language, your 'tool of thought', or of Guilielmo Marconi to 'wireless' channels of communication. But it is only now that we are beginning to realise that a linguistic revolution of even greater importance is taking place before our eyes, uninvited, poorly understood and not always welcome. I refer to the insidious and growing influence of the personal computer and to the awesome power of William Gates, founder of Microsoft, the richest man in the United States of America and the inventor of MS-DOS and of *Windows*.

In Western hospitals, every physician and surgeon is already compelled to take account of the impact of computers on the practice of medicine (CT scanning and MR imaging), on office procedures (word-processing), on medical records (Read; SNOMED), on medical publishing (textbooks and journals) and on teaching (video-conferences; multimedia). Microscopic sections can be reviewed by pathologists who are hundreds of miles apart; they select, adjust and survey a shared video image while debating a histological diagnosis.

In a comparable manner, every British University has access to a *Joint Academic Network* (Janet) and to her young sister, Super Janet. The Universities are linking staff offices by telephone line so that teachers and research workers, already communicating internationally and on an hourly basis by facsimile machines, can 'write' to each other by electronic mail (e-mail). Within and outside the Universities, any individual can subscribe to the Internet, allowing free entry to stores of information held in archives such as the World-Wide Web. It must be only a matter of time before the Royal Colleges are linked in the same way.

At present, a 'generation gap' determines that many practising doctors have left school without learning to use personal computers. This educational 'black hole' will soon disappear. In the University of Edinburgh, the Faculty of Medicine has established a 'laboratory' with 90 computers for the use of undergraduates. It is ironic that the site should be that of the 1962 Medical Reading Room. Soon, all communication between Faculty and students will be by electronic mail (e-mail), not on paper. Students already 'write' to each other in this medium and almost all essays are composed on a word processor. Sadly, to the consternation of the elderly, the use of the pen is declining. The conclusion is inescapable: by the Millennium, doctors who do not understand and use personal computers will not be professionally ignorant but in a sense they will be illiterate and it will be difficult for them to communicate with their younger colleagues.

The day-to-day use of personal computers has yielded immense benefit. However, the new skills have created great problems for those charged with preserving the integrity of language. The task of modernising dictionaries and encyclopaedias is now easier than it has ever been but the linguistic price paid for