History of Telemedicine. Evolution, Context, and Transformation

Telemedicine is a technologically based modality of care which, as this thorough history shows, has been around for centuries as an alternative to “in-person” care, predicated on the technologies available at the time to provide connectivity. However, this is essentially a 20th century-and- onwards story (transmission of an ECG was first achieved by Einthoven in 1905) and most particularly the last twenty years, although pioneering projects predated this. These studies have shown the technical feasibility of telemedicine, but hard evidence of its efficacy in addressing issues of cost, quality and access has been difficult to establish unequivocally, partly related to methodological issues.

This book is a fascinating read. The focus is, perhaps understandably, in view of the authors’ interests, largely American. There is little concerning teleneurology (pp 159, 162, 172, 252-3, 274, 370), or neurosurgery (pp 286, 374, 385), in sharp contrast to telepsychiatry, which seems to have been taken up enthusiastically, perhaps because there is no “necessity to physically lay hands on the patient” (p390) and also because patients may find that it “diminished the emotional intensity of divulging personal information” (p235).

Visually oriented specialties such as radiology, pathology and dermatology are frequent users of telemedicine. (Those interested specifically in neurological applications of telemedicine might consult Wootton R, Patterson V (eds). Teleneurology. London: RSM Press, 2005, I am also aware of real-time teleneurology clinics being conducted in Aberdeen).

The fine detail of telemedicine projects in Texas, Arizona or Alaska will not be to everyone’s liking, nor perhaps the administrative aspects of setting up such programmes (there is a risk to the reader of acronym fatigue). I would like to have read something about patient-directed health behaviour with respect to internet searching. Nonetheless, this volume stands as a useful summary of the origins of telemedicine.

Diseases of the Nervous System in Childhood (3rd Edition)

It is 10 years since the publication of the 2nd edition of Aicardi’s famous text book, which is considered by many paediatric neurologists to be the standard text book of paediatric neurology. Aicardi is one of the most well known contemporary paediatric neurologists and for this reason he has recruited many other authors who are very well known in their fields to contribute to the book, including the two co-authors, Martin Bax and Christopher Gillberg. In the last edition, Aicardi wrote most of the chapters himself; however in the 3rd edition, he is joined by 16 other authors, which, he explains is necessary due to the tremendous volume of new information available. The book is enormous and contains almost 1000 pages. It is split into 11 different sections, with several chapters in each. Information is easy to find. There are many useful tables, diagrams, photographs, radiology images and even some colour images of fundi.

The book’s audience would be mainly paediatric neurologists, general and developmental paediatricians and their trainees. Adult neurologists and trainees and geneticists would also find it useful. Whilst it may be very nice to own such a large and impressive looking text book, I do wonder about their purpose in the days of the internet. Is it worth investing in a book like this these days? I decided to put it to the test, by looking up several recent topics that I had done internet searches for. These all related to children I was managing who had various neurological presentations and disorders. The first was some general information about the neuronal ceroid lipofuscinoses, a common cause of regression in childhood. I found a good review published in 2009 and compared the information in the book to that. The book was useful and covered everything that I was looking for. The electron microscopy photographs of the abnormal inclusions helped me interpret those sent to me by the lab for my patient. The review was also good but I felt the overview in the book was superior. The second topic was inherited brain-specific folate transport defects, a very rare group of disorders which are only recently described. The book contained very little on this subject, which is not surprising so this time the paper was more useful. The third topic was infantile neuronalonal dystrophy. I wanted to read about the clinical features as I was considering this as a diagnosis for one of my patients. The most recent review I could find was published in 2004 but it was very useful and gave me the information I needed. Again, the book gave equally good information, particularly the early features in MRI findings so I felt the information in the book and paper were pretty equal.

In summary, Aicardi’s book is considered to be a classic paediatric neurology text along with probably 2 or 3 others. I think the author set out clear objectives for this latest edition and these have definitely been met. The most valuable feature of the book is the depth of clinical information covered. However, the most common reason for using a book like this may be to help in the investigation of a child where the diagnosis is still unknown. So what may have been helpful is to somehow give a differential diagnosis for diseases that you may be considering using the clinical features that you have found on examination or on early investigations. One possible way of doing this would be to use the index to link all conditions together that share particular features, for example particular MRI abnormalities. The other drawbacks are obvious. Textbooks are to some extent out of date as soon as they are published and I would always undertake a literature review on top of looking up a topic in this book when looking for information about a particular disorder or disease. Having said that, the book is very useful and should be available to all trainee doctors coming through a busy tertiary unit. My copy will end up in our library where I hope it will be used for this exact purpose.