FROM THE EDITORS

Peritoneal Dialysis in China: A Story of Growth and Innovation

In the past decade, growth in incidence rates of end-stage renal disease treated with dialysis have been less marked in North America and Western Europe than was the case in the 1990s. In contrast, growth has continued at a striking rate in much of the developing world. Nowhere is this more apparent than in China. A combination of increasing affluence, urbanization, changing lifestyles and high rates of diabetes have all been associated with a dramatic increase in numbers of patients receiving dialysis.

In 1999 there were estimated to be about 40,000 chronic dialysis patients in China; by 2007 it had reached 100,000 and it is now in excess of 260,000. Peritoneal dialysis (PD) has played a substantial part in this growth. Use of PD varies across China but, overall, approximately 15% of the Chinese dialysis population is managed with this modality. This is equivalent to over 40,000 PD patients, making the Chinese PD population the second largest in the world, after that of Mexico. It is therefore fitting that *Peritoneal Dialysis International (PDI)* should mark this astonishing growth with a supplement dedicated to the story of PD in China.

The supplement comprises 7 papers. It begins with a brief overview from Dr. Qiang Yao and Michelle Duddington on the basic numbers and facts about PD in China. Professor Xueqing Yu and colleagues then describe their experience in a remarkable PD program at the First Affiliated Hospital of Sun Yat-Sen University in Guangzhou. This center is one of the 2 or 3 largest PD units in the world. Its prevalent PD population exceeds 1000 and, if its large number of satellite centers is included, the census exceeds 2000. The model of monitoring and maintaining high quality of care in satellite units has previously been described in *PDI* and seems an excellent way of maintaining quality during a period of rapid growth of PD care and its associated decentralization. Yu and colleagues have shown excellent patient and technique survival and low peritonitis rates in their unit and have also maintained a very productive bench science PD research program with many publications in prestigious journals including the *American Journal of Pathology* and *Kidney International*.

Drs. Wei Fang, Zhaohui Ni and Jiaqi Qian, from Renji Hospital in Shanghai, report their use of 'Hong Kong style' low dose continuous ambulatory PD with 3 x 2-liter exchanges daily as the initial PD prescription. Subsequently, the prescription is increased as required. Results with this approach are excellent, not so surprising given the well-known experience with a Chinese population in Hong Kong.

Professor Liu and colleagues describe the effects of a continuous quality improvement initiative introduced at their center in Jinling Hospital, Nanjing, in 2008. The effects on key clinical outcomes such as peritonitis, technique and patient survival are impressively demonstrated and again occur against a background of intense growth in the size of the program's PD patient population.

Drs. Jie Dong and Ming-hui Zhao, from Beijing, describe their development of a highly successful PD clinical research program in Peking University First Hospital, using a multidisciplinary team and asking patient-centered questions in areas such as nutrition and peritonitis. Multiple articles in major peer reviewed journals including *Kidney International*, *Clinical Journal of American Society of Nephrology*, *Nephrology Dialysis Transplantation* and, of course, *PDI* have resulted from these efforts. This group's achievements in developing nursing research in PD are also particularly noteworthy.

Dr. Jinghua Chen and colleagues from the First Affiliated Hospital of Zhejiang in Hangzhou report their use of an 'integrated care' model, using transplantation and/or 'PD first' and other modalities later if required. This has led to both a high rate of PD utilization and excellent clinical outcomes.

Finally, Drs. Yao and Zhou describe the PD 'center of excellence,' established at Renji Hospital in Shanghai, in 2003, by Baxter China. Its aim is to lead quality improvement and show how this has helped enhance technique survival in Renji and in 8 'mentored centers.'

This excellent array of articles combines to leave a number of impressions. One, of course, is the sheer size of PD units in China, with the associated challenges to deliver care but also the opportunities that are being clearly taken to leverage this size and become very good at delivering high quality care. If clinical experience makes clinical care better, then China should be very

good at PD and these publications suggest just that. At least in these centers of excellence, this has become the case. Second, the enthusiasm of these units in delivering innovative care and improving quality despite the challenges of large size and rapid growth is very obvious and impressive. Third, the willingness to carry out large-scale research in PD, both clinical and translational, shows that Chinese practice of PD in academic centers is being appropriately integrated with research. The opportunities for research with such large patient numbers and with a demonstrated commitment to excellence are exciting.

There are still many issues in Chinese PD. Economic constraints limit the availability of new solutions and of labor-saving cyclers. Requirements for patient co-payments for dialysis in some centers may prevent some patients from starting or continuing PD. In all probability, all centers do not achieve the excellence described in this supplement. There are particular challenges in delivering dialysis of any type to the enormous population still living in rural areas or in more remote western China. However, the advances made have been impressive.

In recent times, so many aspects of life in China—economic, social, cultural, scientific and otherwise—have advanced rapidly and have given rise to admiration and excitement. Peritoneal dialysis in China is no exception and there is evidence from this supplement to believe that this advance will both improve patient care and contribute to worldwide PD knowledge.

Finally, acknowledgement is due to Baxter China for funding this supplement. It should be noted, however, that the content has been fully peer reviewed by the *PDI* editorial team. Dr. Qiang Yao of Baxter China played a major role in suggesting topics and collecting the articles and deserves acknowledgment for this. A special thanks to Dr. Anders Traanaeus, the recently retired former Medical Director of Baxter Asia, is also appropriate. Anders was very enthusiastic about putting this set of articles together and publishing them in a single supplement and he will be delighted that it has now come to fruition. Anders may be Swedish by nationality but for much of the past decade he has lived in Shanghai and worked and travelled and played a huge role in developing PD across China. In particular, he has built strong relationships with committed, innovative and courageous Chinese nephrologists who wanted to provide high quality PD to Chinese patients. Many of these nephrologists are authors of the articles in this supplement and Anders will be very proud to see their experiences recorded in one supplement entitled “PD in China.”

Peter G. Blake
Editor Emeritus PDI

Martin Wilkie
Editor in Chief PDI

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