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Dialysis practice from the English NHS to the orient

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The dialysis modality mix in China is quite different from Hong Kong (HK). A recent article [1] about global differences in dialysis modality mix showed interesting differences in peritoneal dialysis (PD) prevalence in 36 countries (reported 2003–05) but omitted China and HK in its report. The Gross Domestic Product (GDP) per capita on healthcare and the reimbursement rate of renal services were regarded as the main determinants of the dialysis modality mix, although diabetes was associated with significantly less use of PD at Day 91.

Diabetes is a common cause of end-stage kidney disease (ESKD) in the Orient. It is interesting that HK has a 'PD first' policy, where 90% of patients are on PD. Yet, in China, with a population of 1.3 billion, there are approximately 260 000 people currently on haemodialysis (HD), and only 40 000 people on PD. It is estimated that currently, another one to two million people in China with ESKD are not receiving dialysis therapy. HK and China are only separated by a short distance; but how different is the dialysis provision! Can this be explained by different macroeconomics and/or renal service indicators? HK spent ∼5% of its GDP on health compared with 10% in the UK, and 18% in the USA.

In HK, PD is mainly provided by the public health authority for a nominal charge. The cost of PD was 40% of HD, but only the basic or glucose-based solution is used. Government funding for HD slots is limited. Patients who do not have medical contraindications for PD but choose HD treatment, need to pay for the HD treatment in private hospitals or charity-subsidized HD units.

What about China? Even though most hospitals are public hospitals, they receive no subsidy from the government, so the focus of any hospital is revenue generation. In most Chinese cities, the charges of HD are covered by 'social insurance' which the patients have paid into, but there is a co-payment payable by the patient. The minimum co-payment is 10%, but is variable depending on the employment of the individual and the place of residence; some people in the rural areas might have no coverage and need to pay the full treatment cost. The low PD percentage is largely due to the perceived disadvantage related to the reimbursement for PD compared with HD, and the inexpensive cost of nursing for HD.

In China, the Price Bureau under the State Planning and Development Commission, sets the price of most treatment cost in order to ensure fair pricing. In the case of PD therapy, there is a charge in relation to PD catheter insertion but there is no charging mechanism or emphasis in connection with pre-dialysis education or on-going training and support necessary to maintain the technique or to prevent complications. Yet, in order for a Chinese hospital to provide PD service, there are many prerequisite rules about the PD centre and the staff, presumably with the objective of protecting patients from poor practice. Not surprisingly, many renal centres are busy expanding their HD units, with many hospitals having plans for over 100 HD stations, PD is ascribed a low priority.

In the UK, the cost of home-based PD is cheaper than in-centre HD by up to a third, and this is the same in China. In the USA, the prevalence of PD dropped to 7%, but with a more profitable arrangement with insurance providers, the PD prevalence has increased to 11%. Like the USA, many staff in the county hospitals in China lack PD training and expertise. This leads to poor outcomes and in turn, failure to offer PD. Still, effort is being made to provide training for free in some established renal centres. With 1.5 million Chinese suffering from ESKD, expansion of PD provision should provide more patients with affordable renal replacement therapy. The building of a good infrastructure for PD is important. There is a need to educate both staff and patients about dialysis options and practice. The Chinese nephrology community should act as the patients' advocate to ensure PD service receives a 'fair' treatment and not hard-done. On a positive note, because carer's wage is low in China, the families of some elderly patients could afford assisted PD by hiring carers to do so.

What then is the right balance of HD and could 'PD first' policy be successful in other countries as well? The relatively small body size of the Oriental populations, many of them weighing 50–60 kg, makes three PD exchanges a day a feasible regimen to provide adequate dialysis. Nonetheless, some PD patients are underdialysed or overhydrated and would benefit from switching to HD, but under the present circumstances in HK, would need to wait for a HD slot.

Only 20 years ago in the UK, there was a huge problem with HD slots. Up to 50% of the patients in the Northwest were on PD, and there was no alternative choice for most of the new patients but to do PD first. But as the economy improved, there were more satellite HD units and the percentage of patients on PD started to shrink; the prevalence of PD in many inner cities has fallen to 20%. The fact that European patients are larger and there is an ageing population might play a role in this but it mainly comes down to the patient's choice. But with what and how we provide

pre-dialysis education are vital. We should always be mindful that we act in the best interest of patients and also try not to be wasteful. As there is no difference in survival outcome between PD and HD, it seems to be appropriate to recommend a patient to do PD first, and change to HD later.

As nephrologists, we would like to extend life with reasonable quality. Preventing harm and secondary prevention of complications is like planting seeds; the reward is in the future. In the UK, there is a trend that the dialysis growth is starting to plateau. This followed the introduction of estimated glomerular filtration rate in 2008 as part of the routine urea and electrolyte reporting, many UK doctors became more aware of chronic kidney disease, its prevention and treatment; and, there has been a strong infrastructure in place for renal conservative management.

In China, nephrologists are championing for reducing salt intake, controlling hypertension and measuring urinary microalbumin as the first steps to reduce hypertensive kidney disease. There is recognition of the need for expanding primary-care personnel and community health centres, and promoting self-care would hopefully stop the ESKD epidemic in the Orient.

Reference

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