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Chapter News

Meeting and conference

We are pround to announce the 10th Asia Pacific Chapter Meeting of the International Society of Peritoneal Dialysis (APCM-ISPD 2021) will held at the Bali Nusa Dua Convention Center (BNDCC), Bali, Indonesia, on 21 to 23 October 2021. The meeting will be hosted by the Indonesian Society of Nephrology. Professor Aida Lydia Sutranto, President of Indonesian Society of Nephrology, will be in charge of the organziation.

Call for further meeting

The ISPD Asia Pacific Chapter will call the bidding for hosting the 11th Asia Pacific Chapter Meeting of the International Society of Peritoneal Dialysis, which is expected in 2013.

Scholarship and fellowship

Dr. Vaishnavi Raman from India has just completed her ISPD fellowship program hosted by the Royal Brisbane & Women's Hospital and Queensland Children's Hospital, both at Queensland, Australia, under the supervision of Dr. Dwarakanathan Ranganthan and Dr. Peter Trnka, respectively. We look forward to seeing her other contribution to the International Society for Peritoneal Dialysis in the near future.

Prepared by: CC Szeto, Coordinator, ISPD Asia Pacific Chapter

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Health Economic Evaluation of Peritoneal Dialysis Based on Cost-Effectiveness in Japan

Tomoyuki Takura, Ph.D*, Hideki Kawanishi, MD.

Graduate school of Medicine, The University of Tokyo

Department of Healthcare economics and Health policy

Correspondence to:

Professor Tomoyuki Takura

E-mail: ttakura@m.u-tokyo.ac.jp

Peritoneal dialysis (PD) had been shown to have clinical superiority over hemodialysis (HD) in several areas, including the minimal strain on the cardiovascular system and maintenance of residual renal function (RRF; i.e., urine volume) [1]. The “PD first” concept accounts for these advantages and is the basis for recommending PD therapy [2]. In other words, a therapy that has advantages on the quality of life (QOL), patient prognosis, and reduced medical cost burden potentially forms the basis of a comprehensive medical treatment for renal failure. In Japan, the medical expenditures associated with dialysis have garnered considerable interest; however, a cost-effectiveness evaluation of peritoneal dialysis (PD) is yet to be evaluated. In particular, the health economics of the “PD first” concept, which can be advantageous for clinical practice and healthcare systems, must be evaluated. Under these circumstances, there were 37,983 renal replacement therapies in patients who underwent HD, 1,946 in those who underwent PD, and 1,648 in those who underwent transplantation during 2016 in Japan. Therefore, we performed a prospective observational study on the health economics for PD, especially APD, as a spreading medical technology in recent years in Japan [2].

This multicenter study investigated the cost-effectiveness of PD. The major effectiveness indicator was quality-adjusted life year (QALY), with a preference-based utility value based on renal function, and the cost indicator was the amount billed for a medical service at each medical institution for qualifying illnesses. In comparison

with hemodialysis (HD), a baseline analysis of PD therapy was conducted using a cost-utility analysis (CUA). Continuous ambulatory PD (CAPD) and automated PD (APD) were compared based on the incremental cost-utility ratio (ICUR) and propensity score (PS) with a limited number of cases. The mean duration since the start of PD was 35.0±14.4 months. The overall CUA for PD (179 patients) was USD 55,019/QALY, which was more cost effective (USD/monthly utility) compared with that for HD for 12–24 months (4,367 vs. 4,852; $p<0.05$). The CUA reported significantly better results in the glomerulonephritis group than in the other diseases, and the baseline CUA was significantly age sensitive. The utility score was higher in the APD group (mean age, 70.1±3.5 years) than in the CAPD group (mean age, 70.6±4.2 years; 0.987 vs. 0.860; $p<0.05$). Compared with CAPD, APD had an overall ICUR of USD 126,034/QALY.

The effectiveness index (utility) of PD was statistically superior to that of HD ($p<0.05$), but there was no difference in the cost index. In addition, the CUA for PD was slightly better than that for HD although there was no statistical difference. Although there were restrictions on the observation period (≥6 months), our study results suggested that the baseline cost-effectiveness of PD was satisfactory and that the primary disease, renal function, and other factors influenced the medical economics. A previous study [3] showed that the etiology of chronic kidney disease (CKD) had a major influence on the cost-effectiveness of HD treatment; in particular, diabetic nephropathy, which is one of the most common etiologies of CKD, resulted to lower cost-effectiveness, when compared with that for glomerulonephritis. The present study showed similar results. The difference in the cost-effectiveness between the two diseases was nearly the same for PD treatment in the present study and for HD treatment in previous studies, which showed that the diabetic nephropathy group, compared with the glomerulonephritis group, had approximately 20% lower performance.

A previous research identified several classic factors, such as low HDL cholesterol, as risk factors in HD patients [4]. In recent years, abnormalities in serum K and P metabolism have been identified as cardiovascular mortality risk factors in patients on dialysis [5]. The present study also identified serum P, K, HDL, and TG as factors that influenced the cost-effectiveness. Future research focused on this topic is essential for interpreting these results, but the main reasons for these factors may be related to the cost of medications and hospitalizations, such as those for anemia, hyperphosphatemia treatment, and secondary hyperparathyroidism treatment. For example, in the AURORA study [6] and 4D study [7], the initiation of rosuvastatin and atorvastatin treatment had no significant effect on the primary clinical endpoint in patients undergoing HD. Based on these data, we recognized that the adequate

management of dialysis using relevant indices was extremely important in improving the socioeconomic burden of ESRD therapy.

The results also suggested that the cost-effectiveness of PD was potentially good in the elderly and patients with less than 24 months on dialysis. In addition, comparison of the ICUR between CAPD and APD suggested that, in the early stage of initiation, APD may be a superior PD technique, and the major determinants were utilities. However, the number of patients in the APD and HD groups was very small, so it was difficult to draw conclusions. The findings of cost-effectiveness might be related to the high utility level with home medical care, and the possible reasons for the low long-term performance were the factors related to encapsulating peritoneal sclerosis. The maintenance of the RRF after the initiation of dialysis is considered to vary widely among patients, depending on the underlying disease, drugs administered, and dialysate used. A recent study estimated the speed of RRF decline to be approximately −1.5 mL/min/1.73 m2/year [8]. Although a Japanese population was not targeted, a related study indicated that the mean duration of PD was 30 months [9]. In this case, after reaching the objectives of optimal dialysis [i.e., dialyzer clearance of urea, dialysis time/volume (spKt/V) urea of 1.7 per week], uremic toxin management can be achieved by PD alone in approximately three years.

In this prospective observational study on the health economics of PD, we show that the cost-effectiveness of PD is potentially good in the elderly and in patients on dialysis for <24 months, although the number of HD groups assessed was limited. Therefore, the prevalence of PD use may affect the public health insurance system, particularly when applying the “PD first” concept.

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Use of PD for Children In Developing Countries

Dharshan Rangaswamy [1] and Narayan Prasad [2]

[1] Department of Nephrology, Kasturba Hospital and Medical College, Manipal Academy of Higher Education, Manipal, Udupi, India

[2] Professor of Nephrology, Sanjay Gandhi Postgraduate Institute of Medical Sciences, Lucknow, India

Correspondence to

Narayan Prasad, DM

Email: narayan.nephro@gmail.com

Peritoneal dialysis (PD) offers distinct advantages for patients with end-stage kidney disease (ESKD), especially in children from developing world [1]. In our long follow-