

ASIA-PACIFIC CHAPTER NEWSLETTER

INTERNATIONAL SOCIETY FOR PERITONEAL DIALYSIS (ISPD)

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Editor's Note

Dear All,

In this issue, we are delighted to have Professor Zhaohui Ni from China to discuss the issue of urgent start peritoneal dialysis. In addition, Dr. John Li from Hong Kong will share his experience of home dialysis.

You are most welcome to distribute this newsletter electronically or in printed form to your colleagues or other people interested. If you or your colleagues want to receive this newsletter directly from our editorial office, please send your e-mail address to: ccszeto@cuhk.edu.hk

Sincerely,

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Urgent-Start Peritoneal Dialysis: A Promising Option for Initiation Of Unplanned Dialysis in ESRD Patients



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Urgent-start dialysis is frequently carried out worldwide, and 30%–50% of patients undergoing dialysis start the procedure urgently due to late referral to a nephrologist or unexpected worsening of residual renal function. Hemodialysis (HD) via a temporary central venous catheter (CVC) is the most frequently used dialysis modality in this situation, but is associated with complications, poor prognosis and high cost. In developing countries such as China, the number of patients who require urgent initiation of dialysis is increasing with the rapid growth of the end stage renal disease (ESRD) population. The growing need, coupled with limited medical and economic resources, provides a rationale for

maximizing the use of peritoneal dialysis (PD), and especially urgent-start PD.

Urgent-start PD is the initiation of PD in patients with ESRD who were not already receiving dialysis, and who required dialysis initiation <2 weeks after catheter placement, but who did not require emergent dialysis. Available evidence supports PD as a feasible and safe urgent-start dialysis alternative HD. Povlsen and Ivarsen described how to use a standard prescription to initiate acute automated PD (APD) immediately after PD catheter insertion [1]. They found that the total number of mechanical complications was significantly higher in the acute APD group compared with the chronic PD group, while the number and types of infections that occurred in the 3 months after beginning dialysis and the PD technique survival rate were similar in both groups [1]. Alkatheeri et al. reported their experience of urgent-start PD in a Canadian academic center [2]. Among 30 urgent-start PD patients, three (10%) developed minor leakages during the first week, and six (20%) developed catheter dysfunction. No patients needed catheter replacement or modality switching, and there were no short-term infectious dialysis-related complications during the first 4 weeks [2]. Dias et al. reported on the use of urgent-start PD in Brazil, and found that among 35 urgent-start PD patients, peritonitis and mechanical complications occurred in 14.2% and 25.7%, respectively, and the mortality and technique survival rates were 20% and 85.7%, respectively [3]. Wong et al. carried out a multicenter study in the United States [4]. A total of 81 patients with ESRD who urgent initiation of PD were included. During the 1-year follow-up, 53% of patients were never hospitalized and 84% remained peritonitis free. Among the 21 (26%) patients who stopped PD therapy, one (5%) had a hernia, two (10%) had peritonitis, and one (5%) had persistent catheter dysfunction. No patients died during the follow-up period [4]. Xu, et al. reported their experience in a Chinese center and found that the prevalence of abdominal wall and catheter complications were 4.8% and 9.5%, respectively, with a median of 31.3 month follow-up [5]. Overall, these results suggest that urgent-start PD could be a feasible and safe procedure.

A series of our previous studies showed that the risk of dialysis-related complications associated with urgent-start PD is no significantly higher than with non-urgent-start PD, and lower than that with urgent-start HD. A large retrospective study at our center including 657 ESRD patients, found that a PD break-in period of <1 week was related to a minor increase in the risk of mechanical complications, but had no significant effect on technique-related patient survival [6]. Another previous retrospective study of 178 patients at our center reported that urgent-start PD was associated with fewer short-term dialysis-related complications, fewer dialysis-related complications requiring catheter reinstitution, and less bacteremia compared with urgent-start HD. No significant difference in patient survival was observed [7]. A retrospective study in older ESRD patients at our center also found that urgent-start PD reduced the incidence of short-term dialysis-related complications without affecting survival, compared with urgent-start HD in older patients with ESRD [8]. Our more recent study found that urgent-start PD had lower incidence of dialysis-related

complications and higher patient survival rate compared with urgent-start HD in patients with ESRD and diabetes [9]. In our experience, urgent-start PD may thus be a feasible dialysis modality for ESRD patients, older ESRD patients and patients with ESRD and diabetes.

Several problems of urgent-start PD remain. First, it is not clear that PD is indicated in patients who require emergent dialysis (e.g., for severe hyperkalemia, severe volume overload, or marked uremia). The evidence suggests that those patients are not good candidates for initial urgent-start PD, as they generally do not tolerate PD catheter insertion or cannot wait 48 h for the PD procedure. A large-scale urgent-start PD pilot study conducted in the United States enrolled patients who initiated emergent dialysis therapy within 48 h of catheter placement, but the full results have not yet been published yet [4]. Second, there is no standard, widely accepted method of insertion of urgent-start PD catheters nor is there a standard urgent-start PD prescription. Percutaneous, open surgery, and laparoscopy have been reported but none was found superior to the others. Povlsen et al. described a standard prescription for acute APD [1], and another standard prescription for older patients with ESRD [8]. But standard prescriptions for other PD modalities, especially in developing countries where APD has not been widely used, have not been reported. Furthermore, large prospective randomized controlled trials of the feasibility of urgent-start PD are still lacking.

In conclusion, urgent-start PD is a feasible, cost-effective and promising dialysis alternative to HD via a CVC for unplanned initiation of dialysis in ESRD patients.

References

1. Povlsen JV, et al. How to start the late referred ESRD patient urgently on chronic APD. *Nephrol Dial Trans* 2006; 21:56–59.
2. Ali MA, et al. Success of urgent-start peritoneal dialysis in a large Canadian renal program. *Perit Dial Int* 2016; 36:171–176.
3. Dias DB, et al. Peritoneal dialysis can be an option for unplanned chronic dialysis: initial results from a developing country. *Int Urol Nephrol* 2016; 48:901–6.
4. Wong LP, et al. Urgent peritoneal dialysis starts for ESRD: initial multicenter experiences in the United States. *Am J Kidney Dis* 2016; 68:500–2.
5. Xu D, et al. Urgent-Start Peritoneal Dialysis Complications: Prevalence and Risk Factors. *Am J Kidney Dis* 2017;70:102–0.
6. Liu Y, et al. Impact of break-in period on the short-term outcomes of patients started on peritoneal dialysis. *Perit Dial Int* 2014; 34:49–56.
7. Jin H, et al. Urgent-start peritoneal dialysis and hemodialysis in ESRD patients: complications and outcomes. *PLoS One* 2016; 11:e0166181.
8. Jin H, et al. Feasibility of urgent-start peritoneal dialysis in older patients with end-stage renal disease: a single-center experience. *Perit Dial Int*, 2017, Epub ahead of print.
9. Jin H, et al. Peritoneal Dialysis as an Option for Unplanned Dialysis Initiation in Patients with End-stage Renal Disease and Diabetes Mellitus. *Blood Purif* 2018 (in press).

Upcoming Meetings

17th Congress of International Society for Peritoneal Dialysis
5-9 May 2018
Vancouver, Canada
Website: <http://ispdvancouver2018.org/>

9th Asia Pacific Chapter Meeting of International Society for Peritoneal Dialysis
5-7 September 2019
Nagoya, Japan

Evolution of Catheter Related Infections in Peritoneal Dialysis Over Three Decades – What We Learned in India

The Professor JCM Shastri oration delivered by Dr. Georgi Abraham at the annual congress of the Indian society of nephrology in New Delhi December 2017.

The ideal PD delivery system should be reliable, cost effective and easy to use. The material should be durable, compatible and easily disposable. The currently available peritoneal catheters are a combination of intra and extra peritoneal segments and they are available in various shapes and designs. Popular among them are the swan-neck catheters with two cuffs and bent intramural segment. Current practice also involves peel off away sheath for catheter implantation. The routes of infection can be subdivided as transluminal, periluminal, transmural and hematogenous. The primary prevention of peritonitis involves skilled training and early detection of patients who are at risk of developing peritonitis such as immunocompromised, frail, and hypoalbuminemic patients. Access related complications differ considerably between acute and chronic PD as a result of differences in catheter design, catheter material, number of cuffs, breaks in period and the duration of peritoneal dialysis. Pain is the most common complication of acute peritoneal dialysis while exit site infections are commonly seen in chronic PD. In 2002 we reported the incidence as 1 episode in 27.3- 41.9 patient months in India(1) but however as majority of the catheters are swan neck configuration now the incidence of exit site infections have become much less. A prospective study on coconut oil application at the exit site to prevent infection with every other patient using mupirocin is being conducted at our center. Acute catheter exit site infection involves purulent and/or bloody drainage from the exit-site, spontaneous or after pressure on the sinus, and/or swelling; and/or erythema with diameter 13mm or more from border. Chronic catheter exit site infection is characterized by purulent and/or bloody drainage from the exit-site, spontaneous or after pressure on the sinus; and/or exuberant granulation tissue around the exit and/or in the sinus and lasting more than 4 weeks. In India, with diverse culture and socio economic status the swan neck catheter is superior in preventing exit-site infection as per the current data.

Figure 1. Professor Georgi Abraham giving the lecture.



Reference

1. NarayanPrasad, AmitGupta, MillyMathew, GeorgiAbraham. Access-related complications in peritoneal dialysis in developing countries. Volume 9, Issue 2, April 2002, Pages 144-148

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Effect of Incident Nocturnal Home Haemodialysis Versus Continuous Ambulatory Peritoneal Dialysis on Employment Rate, Clinical and Laboratory Outcomes



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In Hong Kong, patients with end stage renal disease (ESRD) would be put on peritoneal dialysis (PD) as their initial mode of dialysis in government hospital under the "PD first policy". To date, 86% of dialysis patients received continuous ambulatory peritoneal dialysis (CAPD) [1], and a reasonable proportion of them could resume employment [2]. Nocturnal home haemodialysis (NHHd) programme was started in Hong Kong since 2006. It could be offered to ESRD patients with reasonable level of dexterity and independence and had relative contraindications for PD.

Previous literature had compared various clinical outcomes of patients on NHHd and center haemodialysis (CHD) [3,4], yet data comparing outcomes of NHHd and CAPD patients was scarce. We conducted a 1-year retrospective observation study to investigate the hypothesis that both NHHd and CAPD could produce similar employment rate, clinical and laboratory outcomes in Chinese ESRD patients [5]. Twenty incident NHHd and 81 incident CAPD adult patients of Chinese ethnicity, who were matched for sex, diabetic status and Charlson comorbidity index were included in the study. All NHHd patients performed alternate night haemodialysis with conventional dialyzers. CAPD patients performed 3 to 4 bags daily exchange of conventional glucose-based dialysate in the double bag system. The primary outcome was the difference in employment rate of the two groups after 1 year of dialysis. Secondary outcomes included disparities in clinical and laboratory parameters within and between the two groups after dialysis. Clinical parameters included body weight, blood pressure and number of anti-hypertensive medications, dosage of phosphate binders and erythropoietin stimulating agent (ESA). Laboratory parameters consisted of residual renal function (RRF), mineral metabolic markers (phosphate and calcium phosphate product) and haemoglobin level.

The median age of NHHd patients was 5 years younger than their CAPD counterparts (47 vs. 52 years-old, $p = 0.01$), while other demographic data were similar. The pre-dialysis employment rates of NHHd and CAPD groups were similar (75% vs. 60.5% $p = 0.3$). 80% of NHHd patients were working at 1 year, majority as computer technician, police and nurses, while drivers and manual labors comprised 10%. 60.5% of CAPD patients were working as manual labors and clerks. At 1 year, 27 CAPD patients (33.3%) remained employed (pre-dialysis vs. 1 year, $p < 0.01$), which was significantly less than the NHHd group ($p < 0.01$). Logistic regression revealed the crude odds ratio for NHHd patients to be employed at 1 year was 8.00 (95% confidence interval (CI) 2.44-26.27, $p = 0.01$) and remained significant at 6.10 when adjusted for age (95% CI 1.77- 20.99, $p = 0.04$). NHHd patients consumed less aluminum-based phosphate binder (0mg vs. 1800mg, $p < 0.01$)

and 70% stopped their binder at 1 year. However, there were no significant disparities in other clinical parameters. Residual renal function in both groups declined comparably, nonetheless NHHd group had lower serum phosphate and calcium phosphate product. Haemoglobin levels were similar with similar ESA dosages between groups ($p = 0.35$)

The primary focus of our discussion is on employment of our dialysis patients. One third of our CAPD subjects continued employment at 12 months, which was comparable to the findings in Spain [6]. In contrast, 80% of their NHHd counterparts were working and the association of NHHd with employment remained substantial at odds ratio of 6.1 after adjusting for age. We believed age was one of the major determinants of employment and acknowledged that our NHHd patients were 5 years younger. However, the average age of all of our subjects was lower than the recommended age of retirement and therefore the patients were less likely to retire due to age alone. The job nature distribution was a possible reason to account for the employment difference. Although the initial proportion of manual labor in each group were statistically similar, the largest number of CAPD patients subsequently became unemployed were drivers, manual workers, gardeners and clerks, whereas a significant proportion of NHHd patients worked indoor and required relatively less physical strength. The vitality level in PD patients had been shown to be lower than HD patients [7]. In our study, uraemia and anaemia were notably worse in CAPD patients in the initial phase, which also set a barrier to their functional capacity. Particularly in Hong Kong, there is a lack of CAPD-friendly working environment as offices are typically petite and overcrowded. Home office is not a popular modality. Vocation retraining by the nephrology-occupational therapist team is deficient. The complicated interactions of these factors were speculated to result in high rate of unemployment in CAPD patients.

We acknowledged the small sample size is a limitation of this study. Moreover, the employment status might involve reporting bias as it was solely based on a patient-reporting system, without evidence of appointment to verify the exact nature of their work. To conclude, NHHd appeared to offer higher employment rate, lower dosage of aluminum-based phosphate binder and mineral metabolic markers at 1 year compared with CAPD in Hong Kong. Such knowledge might be appealing to policy stakeholders, and help nephrologist to bespoke the choice of dialysis modality for incident dialysis population. Nevertheless, the employment rates in both modalities are suboptimal. Vocation retraining by multi-disciplinary team is a potential strategy to motivate and empower patients to resume employment.

References

1. Leung CB, et al. Renal registry in Hong Kong-the first 20 years. *Kidney Int Suppl* (2011). 2015;5(1): 33-38.
2. Ho YW, et al. Hong Kong Renal Registry Report 2012. *Hong Kong Journal of Nephrology*. 2013;15(1): 28-43.
3. Agar JW. Nocturnal haemodialysis in Australia and New Zealand. *Nephrology*. 2005;10(3): 222-230.
4. Bayliss G, et al. Nocturnal versus conventional haemodialysis: some current issues. *Nephrol Dial Transplant* 2009;24(12): 3612-3617.
5. Li JW, et al. Effect of incident nocturnal home hemodialysis versus incident continuous ambulatory peritoneal dialysis on employment rate, clinical, and laboratory outcomes: A 1-year retrospective study. *Hemodial Int*. 2017.
6. Julian-Mauro JC, et al. Employment status and indirect costs in patients with renal failure: differences between different modalities of renal replacement therapy. *Nephrologia* 2013;33(3): 333-341.
7. Wu AW. Changes in Quality of Life during Hemodialysis and Peritoneal Dialysis Treatment: Generic and Disease Specific Measures. *J Am Soc Nephrol* 2004;15(3): 743-753.



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