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Dialysis

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EARLY TECHNICAL COMPLICATIONS AND LONG TERM SURVIVAL OF URGENT PERITONEAL DIALYSIS ACCORDING TO BREAK-IN PERIOD

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Background: Guidelines recommend a break-in period of at least 2 weeks before peritoneal dialysis (PD) start because of catheter-related technical complications. Recent study report that urgent-start PD within 14 days after PD catheter insertion is an acceptable and safe alternative to hemodialysis in patients who need to start dialysis urgently without established dialysis access. We investigated the effect of break-in periods for 48 hours less or more on early technical complications, long term PD maintenance and survival in patients starting urgent PD.

Methods: We included 360 patients percutaneously inserted PD catheter by surgical methods from a single center between January 2007 and December 2014. We excluded patients started hemodialysis (HD) with temporary catheter before PD catheter insertion and retrospectively analyzed data of 293 PD patients. Finally we included 190 patients who start PD urgently and grouped according to break-in period before PD solution dwell: 48 hours or less (<P2) and 2-13 days (P2-P13). We defined urgent PD patients had BUN > 100 mg/dL, creatinine > 10 mg/dL, K > 6 mEq/L or pulmonary edema with a break-in period of less than 2 weeks. We defined early technical complications as malposition, leakage, obstruction, omental wrapping needing re-positioning operation, change to HD within 6 months after PD catheter insertion.

Results: Age of enrolled patients was 58.6 ± 13.6 , male was 62.6% and diabetes was 40.5%. One hundred three patients (54.2%, BUN/creatinine: $101.7 \pm 33.5/9.4 \pm 3.8$ mg/dL) were started PD within 2 days and 87 patients (45.8%, BUN/creatinine: $93.3 \pm 30.5/9.0 \pm 3.7$ mg/dL) within 2 to 13 days (5.9 ± 2.9 days, median 5 days). The incidence of early technical complications was significantly higher in <P2 patients (28.2%) than in P2-P13 patients (10.3%). The incidence of re-positioning operation was significantly higher in <P2 patients (14.6%) than in P2-P13 patients (3.4%). However, we observed no significant differences between the two groups with respect to the prevalence of catheter dysfunction requiring change to HD within 6 months or incidence of peritonitis or exit site infection. There was not significantly different in aspect of maintaining PD and survival according to break-in period

Conclusion: Urgent PD may have few incidences of early technical complications if we avoid starting PD within 2 days after PD catheter insertion and it may warrant long term PD maintenance regardless of break-in period.

Keywords: peritoneal dialysis, Urgent PD