



Forth Day

Friday, November 25

O701

Chronic Peritoneal Dialysis for End-Stage Renal Disease, a Single Center Experience in Shiraz, Iran

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Introduction. Peritoneal Dialysis (PD) program was established in 2004 in Shiraz. Along with hemodialysis and renal transplantation, it is an option for chronic renal failure patients who become end-stage and need Renal Replacement Therapy (RRT).

Methods. We analyzed the data from Iranian PD registry for the period between 2004 and 2009. All patients with peritoneal dialysis of at least three months duration were included.

Results. A total of 114 PD patients with mean age of 44.2 ± 17 years (range 13 to 81 years) were included in the analysis. They were all on Chronic Ambulatory PD (CAPD) with no cases of automated PD. Seventy patients (61.4%) were female. Seventy five patients (65%) were put on PD from the start, while 39 (34%) were switched from hemodialysis to PD, with 24 of them (63%) had underwent 6 or more sessions of HD. PD as the first line of RRT was selected in 79% (positive selection). The underlying diseases for end-stage renal disease were hypertension (35%), diabetes mellitus (22%), glomerulonephritis (10%), and autosomal dominant polycystic kidney disease (4%). In terms of level of education, 20% were illiterate and 41% had at least high school education. Death occurred in 14 patients, only one of them was due to peritonitis, others were due to non-PD related etiologies (80% due to cardiovascular problems). Switching to hemodialysis occurred in 15 patients due to peritonitis (60%), PD failure (13%), and mechanical complications (13%).

Conclusions. PD is a safe method of RRT. As many PD patients had experienced some sessions of hemodialysis before starting PD, preparing the

suitable patients with chronic renal failure for PD before reaching ESRD can be helpful.

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Peritonitis in Iranian Children on Continuous Ambulatory Peritoneal Dialysis, the Second Report From Registry

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Introduction. Our previous nationwide study in children on Continuous Ambulatory Peritoneal Dialysis (CAPD) showed high rate of peritonitis. This is the second follow up study to evaluate the change of the rate of peritonitis in children under treatment.

Methods. All children, younger than 16 years old, treated by CAPD in six main pediatric nephrology wards in Iran between 1998 and 2009 were included in this historical cohort study. Peritonitis rate was calculated. A $P < .05$ was considered significant.

Results. From 2183 cases in the list of registry, 199 patients aged less than 16 years. The mean age was 6.64 ± 5.65 years. Fifty-four episodes of peritonitis were officially reported. The cumulative follow up time was 75 month. Before 1997, peritonitis rate was 1: 6.5 patients/month, between 1997 and 2001 was 1:14, and 2001 afterward it has improved to 1:15 patients/month. The etiology of peritonitis was 59% culture negative, 16.6% gram-negative bacteria, and 11% Staphylococcus aureus. Peritonitis accounts for 61.5% of reasons to exit CAPD.

Conclusions. The peritonitis rate of Iranian children on peritoneal dialysis has dramatically decreased since launching CAPD in Iran but it is still far from the standard.

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Does Intraperitoneal Heparin Affect the Peritoneal Transport in Continuous Ambulatory Peritoneal Dialysis Patients?

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Introduction. Peritoneal Dialysis (PD) solutions containing glucose deteriorate peritoneal membrane by producing advanced glycation end-products. Heparin has anti-inflammatory properties and it has been shown that heparin may increase peritoneal transport of creatinine, urea, and dialysate volume. It also reduces the risk of fibrin formation in PD catheters. In this study, we investigate the effect of heparin on peritoneal transport characteristics in Continuous Ambulatory PD (CAPD) patients.

Methods. In a double blind randomized clinical trial we enrolled 74 adults (> 18 years old) CAPD patients (> one month on PD), without history of peritonitis in the last month. Patients were randomly divided into two groups. The case group received 5000 IU Intraperitoneal (IP) heparin daily for 9 months and control group received IP distilled water as placebo, once daily. Peritoneal equilibration test (PET) was used as a measure of peritoneal transport and it was calculated by the ratio of peritoneal fluid creatinine (DCr), to plasma creatinine (PCr); before, midtime (4.5 months), and at the end of the study (9 months). The data analyzed using chi-square, *t* test and repeated measured ANOVA.

Results. The mean age was 49 ± 16 and 58 ± 10 years in case and control groups, respectively. 65% and 57% of patients were male in case and control groups, respectively ($P = .4$). 30% and 35% of causes of renal failure was diabetes mellitus in case and control groups, respectively ($P = .6$). The duration of PD therapy was 16 ± 12.8 and 20 ± 15.3 months in case and control groups, respectively ($P = .22$). The DCr to PCr ratio before, at mid time, and at the end of the study were 0.8, 0.7, and 0.8 in the case and 0.9, 0.6, and 0.8 in the control groups, respectively. There was no significant difference between groups ($P = .69$). In addition, there was no significant difference within groups too ($P = .10$).

Conclusions. This study has not shown any

difference in peritoneal transport (calculated by PET) with or without use of intraperitoneal heparin in CAPD patients.

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Patient and Technique Survival of CAPD patients in Iran, Based on Latest Data From Registry

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Introduction. The essential objective of the registry systems is to establish a comprehensive database in order to recognize the factors that could influence the patient's quality of life and survival. In this study, we assessed the risk factors and outcome in 2500 Peritoneal Dialysis (PD) patients enrolled in Iranian registry system.

Methods. From 1st January 1995 to end of 2009 from 36 PD centers, monthly collected data (demographic, clinical, and laboratory) of 2261 patients who stayed on PD for more than three months was accumulated through a questionnaire containing 430 questions under 11 headings, entered in Hakim (a Farsi database), and analyzed using STATA (9.0). The patient and technique survival were assessed considering various factors.

Results. Seventy-four percent of patients were married, majority of them were illiterate (24%), 12% university degree, and remaining had high school or lower levels of education. 6.7% of our patients had systolic BP less than 100 mmHg, and in 10.8% diastolic pressure was less than 65 mmHg. 32.6% presented with edema, 10% poor, 74% good, and 16% had excellent appetite. While 29.2% of patients were classified as negative selection, based on nursing report, only 49% of patients were completely appropriate for PD. DM was the most prevalent cause of ESRD (33.5%), followed

by hypertension (24.4%) and GN (8.2%). The major comorbidities included DM, HTN, CHF, and 46.5% of patients experienced one, 25.6% two, 10.4% three, and 2.8% four or more of these comorbidities. In univariate analysis; DM, CHF, CAD, CVA, cirrhosis, COPD, and the number of insults, as well as; age, education, marital status, appetite, edema, 24 hours urine volume, the state of appropriateness, and selection type were significantly associated with patient's survival. In multivariate analysis, DM (HR = 1.88), inappropriateness (HR = 1.26), number of comorbidities (HR = 1.2), and high

LDL (HR = 1.003), high serum albumin level (HR = 0.42), positive selection (HR = 0.50), good appetite (HR = 0.6), and low level of education (HR = 0.84) remained significant factors. Systolic blood pressure, appropriateness status, appetite, presence of HTN, and CHF were significantly affected technique survival in univariate analysis. **Conclusions.** As it has been proven by several studies, risk factors like DM, level of serum albumin, number of comorbidities and state of selection and appropriateness are among the most relevant parameters affecting survivals.