The Effects of Icodextrin-based Peritoneal Dialysis Fluids (PDFs) on Dialysate CA 125 Expression in CAPD Patients

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Objectives : This study was designed to verify the effect of icodextrin PDFs on dialysate cancer antigen 125 (D- CA125) expressions comparing with conventional PDFs and lower glucose degradation product (GDP) PDFs.
Methods : Among new CAPD patients, 50 patients were enrolled in this prospective study. Patients were assigned to one of the four groups, lactate- based high GDP solution (Dianeal®, Baxter, USA; DD group, n=15), bicarbonate/lactate- based low GDP solution (Physioneal®, Baxter, USA; PP group, n=15), Dianeal plus Icodextrin (Extraneal®, Baxter, USA, DE group, n=10) and physioneal plus Extraneal (PE group, n=10). Clinical indices, pH in blood and effluent dialysates, and D- CA125 as a marker of mesothelial viability were measured at 1st, 6th and 12th month. Independent T test and repeated measured ANOVA were used to analyze the data.
Results : There was no significant difference in D- CA 125 between DD group and PP group at 1st, 6th and 12th months. PE group didn't show significant difference in D- CA125 compared to DE group at 1st, 6th and 12th months. But Icodextrin - based PDFs groups (DE group and PE group) showed higher D- CA125 than glucose-based solutions group (DD group and PP group) (33.2±22.9 vs. 24.4±17.8, 39.9±20.1 vs. 28.4±22.1, and 45.1±27.9 vs. 28.2±18.2 U/mL at 1st, 6th, and 12th month, p=0.024) (DD group: 19.2±10.7, 25.3±18.7, 27.0 ±15.0, DE group: 31.9±17.6, 37.3±21.5, 36.8±23.3, PE group: 34.6±28.7, 42.9±19.2, 54.3±30.9 U/mL at 1st, 6th, and 12th month, DE group vs. DD group, p=0.056, PE group vs. DD group, p=0.015, respectively).
Conclusion : The impact of icodextrin on D- CA125 was greater than that of low GDP solution and combined prescription (PE group) might be better way to preserve D- CA125 in CAPD patients.

Key Words : CAPD, Icodextrin, CA125