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복막투석환자에서 icodextrin이 체지방에 미치는 효과 및 기전 분석

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Analysis of Factor Associated with Fat Sparing Effect of Icodextrin in CAPD Patients

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The purpose of this study was to analyze the changes of body composition and the effects of icodextrin dialysis solution and also to define the possible mechanism of fat sparing effect of icodextrin solution in CAPD patients. Among 183 incident patient from June 2001 to September 2004 in our hospital, 68 patients finished a complete 36 month protocol. Clinical indices including daily glucose absorption and body composition, by bioelectrical impedance analysis (BIA), were measured in both groups (icodextrin group: 33 patients, non-icodextrin group: 35 patients) at the 1st (baseline), 12th, 24th, and 36th months. Serum and dialysate leptin and adiponectin were measured at 1st, 6th, 12 th , 24 th, and 36 th months for leptin resistance. Leptin resistance index was defined as serum leptin/adiponectin. Independent t-test, correlation and repeated measures ANOVA (RMA) were used in this study. Results can be summarized as follows. There were significant increases of body weight and fat mass during the 36 months after initiation of CAPD. It was found that 76% of three years of weight gain occurred during the first year and 84% of weight gain at the end of the first year was fat mass gain. Delta change of leptin resistance index during initial 6 months showed positive correlation with delta changes of body weight and fat mass during initial 1 year ($r=0.254$ and $r=0.265$, $p<0.05$, respectively). The icodextrin group showed a significantly lower fat mass gain during the first 12 months (1.1 ± 3.1 vs. 3.2 ± 3.3 kg, $p<0.01$) than non- icodextrin group. Icodextrin group showed significantly lower leptin resistance index during initial 1 year (0.53 ± 0.22, 0.94 ± 0.36 and 0.23 ± 0.07 vs. 0.57 ± 0.26, 1.36 ± 0.96 and 0.27 ± 0.08 at 1 st, 6 th and 12 th months, $p<0.01$, RMA). In conclusion, the application of icodextrin solution may be a better option to alleviate excessive fat gain over time for patients on PD and a possible mechanism could be improvement of leptin resistance in icodextrin group.

Key Words : 렙틴저항성, 복막투석, 체지방
CAPD, Fat, Leptin resistance