

with atorvastatin and anticoagulant can relieve the inflammatory reaction which injure HEVEC and improve endothelial cell functions.

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Correlation Analysis of Anxiety and Depression in Relation to Disease Condition in Patients Undergoing Maintenance Peritoneum Dialysis

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Objective: Exploring the development of the emotional disorders in patients undergoing maintenance peritoneum dialysis, and their relationship with the correlation factors for peritoneum dialysis.

Methods: 212 maintenance peritoneum dialysis patients, in the Nephrology Department of Shenyang North Hospital, from 2008 to 2015, were selected to receive assessment of their emotional state and calculate their morbidity rate using Self-Rating Anxiety Scale (SAS), Self-Rating Depression Scale (SDS), and Symptom Check List-90; the incidences of diabetes mellitus and cardio-cerebrovascular events were summarized; the hemodialysis sufficiency, level of inflammation, and nutritional state were determined; and the educational level and their relatives were collected.

Results: Among the 212 patients, 143 developed the anxiety symptoms, 101 developed the depression symptoms contributing to an incidence of 67.5% and 47.6% separately. 138 patients with diabetes mellitus history. 45 patients of cardio-cerebrovascular diseases history, with the SAS, SDS and Symptom Check score higher than that without history of cardio-cerebrovascular diseases ($P < 0.05$). There was poor correlation between these scores and total Kt/V and total creatinine clearance, suggesting no statistical significances. Hypersensitive CRP level was not significantly elevated in patients providing SAS, SDS and Symptom Check score, and no significant difference in hypersensitive CRP level between patients with higher and lower scores ($P < 0.05$). Higher educational attainment was not associated with higher SAS, SDS or Symptom Check score, and there was no significant association between the educational attainment and the SAS, SDS or Symptom Check score in the patients with higher scores.

Conclusion: The incidences of anxiety and depression symptoms are relatively high in patients undergoing peritoneum dialysis; the anxiety and depression symptoms are correlated with the development of diabetes mellitus, cardio diseases and malnutrition, yet not correlated with the hemodialysis sufficiency, inflammation level, or the educational attainment of the patients or their relatives.

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Impact of Arteriovenous Fistula Blood Flow on Serum IL-6, Cardiovascular Events and Death in Chinese Patients Receiving Hemodialysis: A 5-year Follow-up

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Objective: Flows (Qa) of arteriovenous fistula (AVF) impact dialysis adequacy and complications in hemodialysis (HD) patients. However, data from studies of different access flow rate on outcomes related to long-term dialysis patients, especially in Chinese patients, are limited. To address this, the correlation between the AVF flows with inflammation and cardiovascular events were investigated to explore the optimal AVF flow rate for maintenance hemodialysis patients.

Methods: Sixty-four hemodialysis patients bearing an arteriovenous fistula (AVF) on average 2 years were recruited into the study. Qa and cardiac output (CO) were measured by means of Transonic Hemodialysis Monitor HD02. Predialysis interleukin-2 (IL-2), interleukin-6 (IL-6), interleukin-10 (IL-10) and tumor necrosis factor (TNF- α) were measured by Cytometric Bead Array (BD™). Cardiovascular morbidity and mortality were monitored prospectively over a 5-year period.

Results: 23 patients (35.9%) developed at least one episode of cardiovascular event during the time of AVF creation to the date of enrollment. Qa, IL-6 and hsCRP were significantly higher in patients with CVD than that without CVD. Patients with higher IL-6 had the higher level Qa and CVD morbidity compared to low IL-6 group. Multi-factors binary logistic regression analysis found IL-6 was an independent and stronger risk factor for CVD. Spearman rank correlation analysis and liner regression analysis showed that Qa was positively correlated with IL-6. During the five years follow-up, patients with median AVF Qa ($821.12 \text{ ml/min} \leq \text{Qa} \leq 1027.13 \text{ ml/min}$) showed the lowest morbidity and mortality of CVD according to the Qa tertiles, whereas higher Qa ($> 1027.13 \text{ ml/min}$) was associated with a higher risk of CVD, and lower Qa ($600 \text{ ml/min} \leq \text{Qa} < 821.12 \text{ ml/min}$) had a higher risk of non-CVD death.

Conclusion: In patients undergoing dialysis, IL-6 is an independent and strong risk factor of CVD, and it is positively correlated with vascular access flow (Qa). The AVF Qa at median level benefits the long-term HD patients.

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