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### **A change in the quality of life after the use of 'theranova'**

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**Objectives:** Medium cut-off (MCO) dialyzer provides clearance of large middle molecules and has performance closer to the nature kidney. MCO analysis membranes remove b2-microglobulin and myoglobin more than hemodialysis, but there is no decrease in albumin. This may help improve the quality of life for dialysis patients. In this study, we evaluated how the quality of life changed after hemodialysis with MCD dialyzer.

**Methods:** We conducted a single center analysis from January 2018 to September 2018. We analyzed 22 patients who conducted hemodialysis using a high flux dialyzer by changing it to the Theranova dialyzer. The duration, frequency, and blood flow rate of dialysis did not change, and the high flux dialyzer was changed to Theranova 400 dialyzer for 6 months. To assess the quality of life, we surveyed post-dialysis fatigue, itching, numbness, and insomnia. Fatigue, Itching, and numbness were investigated using a visual analog scale (VAS). Insomnia is investigated using the Pittsburgh sleep quality index.

**Results:** The mean age of patients was  $53 \pm 13$  years, the ratio of male to female is 68.2%. Of all patients, 36.4% of patients have diabetes. The duration of dialysis is  $4.7 \pm 3.3$  years. Kt/V is reduced 1.374 ( $p=0.169$ ), normalized protein catabolic rate is reduced 0.122 ( $p=0.903$ ). Albumin is changed from  $3.93 \pm 0.26$  to  $0.38 \pm 0.22$  ( $p=0.007$ ), B2 microglobulin is changed from  $20.18 \pm 8.5$  to  $21.74 \pm 4.87$  ( $p=0.306$ ). VAS of fatigue is decreased 1.854 ( $p=0.065$ ), VAS of itching is decreased 0.37 ( $p=0.714$ ), VAS of numbness is decreased 0.5 ( $p=0.63$ ) and Pittsburg sleep quality index decreased 1.2 ( $p=0.22$ ). Although it does not show any statistical significance, it has shown a trend of improving quality of life.

**Conclusions:** Theranova is expected to improve the quality of life when used for a long time.