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Analysis of risk factors for failure of autologous arteriovenous endovascular fistula in patients on maintenance hemodialysis

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Objectives : To look at the risk factors for autologous arteriovenous endovascular fistula dysfunction in hemodialysis patients (MHD).

Methods : As of July 2022, of the 49 patients who received MHD treatment in 1 our hemodialysis facility, 25 were classified as normal and 24 were classified as dysfunction. To examine the risk variables influencing the dysfunction of internal fistula in MHD patients, general clinical data and laboratory test results were gathered from both groups.

Results : Patients in the dysfunctional group had higher hemoglobin levels, higher red blood cell counts, were more likely to smoke, and had more combined diabetics than those in the normal group; however, iPTH levels were lower ($P < 0.05$) than those in the normal group. Multifactorial logistic regression study showed that high erythrocyte levels, iPTH levels, age, smoking, and concomitant diabetes were independent risk factors for endovascular failure in patients with MHD ($P < 0.05$).

Conclusions : High erythrocyte level, iPTH level, age, smoking, and coupled diabetes mellitus are all strongly associated with the failure of autologous arteriovenous fistula in MHD patients. To decrease the likelihood of autologous arteriovenous endovascular fistula failure by raising awareness of endovascular fistula maintenance, using a rope ladder puncture technique to puncture from a distance to a close proximity, and encouraging patients to quit smoking.