KSN 2016 Abstract Submission

Dialysis

KSN2016ABS-1116

The Effect of Vascular Access Type on the Variation of Intraaccess Flow Volume during Hemodialysis

Youn Hee Lee*[1], Min Seok Choi[2], Woo Jeong Kim[1], Hoon Suk Park[1], Hyung Wook Kim[1], Dong Chan Jin[1]

[1]Intenal Medicine, Catholic University of Korea, Suwon, [2]Intenal Medicine, Catholic University of Korea, Seoul, Korea, Republic Of

Background: The current surveillance protocol for vascular access (VA) recommends intraaccess flow volume (Qac) should be measured within the first one and a half hours during hemodialysis (HD) to avoid errors. Several previous studies access resistance, which may cause Qac variation, was different among VA types. Therefore, we investigated Qac variation according to VA types.

Methods: Qac was measured at 30, 120, and 240 minutes in each HD session in 144 VA for comparison. 58 VA were lower arm arteriovenous fistula (AVF), 14 were lower arm arteriovenous graft (AVG), 27 were upper arm AVF and 45 were upper arm AVG. The other Qac (%) were expressed as the percentages of Qac at 30mins (100%). The variation of Qac over time was analyzed using repeated measures ANOVA.

Results: Repeated measures ANOVA revealed that the time factor significantly affected access flow ($p < 0.001$), which decreased over time. With regard to group effect, there was significant difference among Qac (%) by VA types ($p < 0.001$). Qac (%) of lower arm AVG at 240 minutes was 75.8 ± 11.3 whereas Qac (%) of upper arm AVF at 240 minutes was 99.5 ± 7.8. There also existed a significant interaction between the effects of time and VA type ($p < 0.001$) suggesting that VA type affected Qac variation during HD. Post hoc analysis revealed Qac variation during HD was significantly different in lower arm AVG.

Conclusion: Our study suggested that Qac of lower arm AVG should be measured according to the current surveillance protocol, but Qac of the other VA types, especially upper arm AVF one, can be measured at anytime during HD.

Keywords: Vasular access, surveillance, variation, accee type