

Abstract Type : Oral

Abstract Submission No. : OR-1339

Comparison of Vascular Access patency and Patient's Survival between Native Arteriovenous Fistula and Synthetic Arteriovenous Graft According to Age Group

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Objectives:

For a long time, arteriovenous fistula (AVF) is known to be the ideal option as a vascular access (VA) for hemodialysis compared with arteriovenous graft (AVG). Recently, such an approach is threatened in elderly patients because of their poor vessel qualities and multiple comorbidities.

Methods:

A total of 2200 patients were analyzed for this study from VA category of catholic medical center nephrology registry from 2009 to 2018. We compared the VA patency and patients' survival between AVF and AVG according to age.

Results:

Survival benefit in AVF group compared with AVG continues even in octogenarian subpopulation (≥ 80 years old). In the whole population, all the primary, primary assisted and secondary patencies (PP, PAP and SP) were superior between two groups. However, even PP is comparable between two groups in the elderly population (≥ 65 years old), whereas PAP and SP were superior in AVF group compared with AVG group even in septuagenarian subpopulation (≥ 70 years old). In the subpopulation (≥ 75 years old), only PAP is superior in AVF group compared with AVG group. In octogenarian subpopulation, all the patencies were comparable between two groups. When upper arm AVF (excluding distal forearm AVF) and AVG were compared, PAP and SP were superior in AVF group compared with AVG group in the subpopulation (≥ 75 years old), However, all the patencies were still comparable between two groups in octogenarian subpopulation.

Conclusions: Upper arm AVF use rather than distal forearm one in the subpopulation (≥ 75 years old) warranted both VA patency and patients' survival compared with AVG use. However, in octogenarian patients (≥ 80 years old), even upper arm AVF use is not warranted for VA patency compared with AVG use.