

Vascular access in DOPPS

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The Dialysis Outcomes and Practice Patterns Study (DOPPS) has improved our understanding of vascular access (VA) practices. Recent DOPPS data shed light on the trends in VA type, associations between VA type and mortality, and the key factors associated with the use of a permanent VA, especially an arteriovenous fistula (AVF). Each of these aspects is discussed below.

Preliminary DOPPS III (2005-2006) data are available regarding the use of each type of VA in prevalent patients. The stability is remarkable in Japan (above 90 % AVF, no increase in catheters, few grafts), whereas in most other countries the use of catheters has increased throughout DOPPS phases. Exceptions are the UK (approximately 23 % catheters, stable) and the US (increase of catheters from DOPPS I (17 %) to DOPPS II (27 %), nearly stable in DOPPS III). The percentage of AVF decreased in Italy, Germany, France, Spain whereas little or no change was observed in UK, Belgium, Sweden and Canada. In the US, the percentage of AVF increased progressively from 24 to 31 and 45 %, with a smaller increase in Australia/New-Zealand.

The US trend points to a marked impact of the “Fistula First Initiative”. That the practice pattern has changed in the US is highlighted by the fact that whereas in DOPPS I only 79 % of medical directors and 58 % of nurse managers mentioned the AVF as the first choice permanent access, these figures have increased to nearly 100 % in DOPPS III. The trend towards higher catheter use in Europe is worrying, especially as the DOPPS has delineated, using both patient-level and facility-level analyses, the association between catheter use and mortality, after extensive multivariate adjustment.

Finally, the DOPPS has detected major differences between countries in the delay between creation of an AVF and first AVF needling (median 25 days in Japan vs. over 90 days in UK/US). A typical time for first AVF cannulation of maximum 4 weeks was associated with a 3 to 4 times higher adjusted odds ratio for having a permanent VA (vs. a catheter). Additional factors significantly increasing the chance to have a permanent VA include the promptness in

performing VA surgery and the perceived success in placing an AVF in a diabetic female over 65 years old.