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Dialysis

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Routine Ultrasound (USG) use after detection of physical examination (PE) abnormality detection leads to less access loss without overuse of surveillance USG

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Background: Regular USG surveillance in addition to Physical examination (PE) did not improved access longitivity. Our center's strategy of access care was the use of USG in case of definite abnormality PE or clinical dialysis procedures. USG was used for determine need of angiography. This strategy may reduce fistula thrombosis without overuse of USG. The aim of this study was to assess this strategy to investigate fistula thrombosis, abandonment, and intervention rates compared to historic controls that only PE was performed.
Methods: A retrospective study of the medical records of 225 patients (115, 1.1, 2007 to 2.28.2011, control group, C; 110, 1.1. 2012~2.28.2016, USG group, U) were conducted in Samsung Changwon Hospital. Fistula thrombosis, abandonments, and intervention rates were calculated and compared between two groups.
Results: This strategy showed an increase in access selective repair (0.66±0.70 events/AVF-Yr, U, compared to 0.32±0.80, C; p=0.001), a reduction in thromboses(0.03±0.10 events/AVF-Yr, U, compared to 0.07±0.17, C; p=0.037), a reduction in central venous catheter placements (0.02±0.10 events/AVF-Yr, compared to 0.08±0.23, C; p=0.018), and a reduction in access loss (0.01±0.07 events/AVF-Yr compared to 0.06±0.17, C; p=0.008). The Kaplan-Meier analysis showed that U had higher thrombosis-free survival than C (p=0.029), and showed that U had higher cumulative access survival than C (p=0.010).
Conclusion: Addition of USG for determine need of angiography after detection of PE abnormality leads to decrease in access thrombosis, a decrease in catheter placement and decrease in access loss despite of increasing access intervention rates. This strategy might be reduce overuse of USG, economic and reduce access losses.

Keywords: ultrasonography, thrombosis, monitoring, Percutaneous transluminal angioplasty, Vascular access