We compared patients with pre-ESRD fistula surgery who initiated dialysis with a catheter versus a fistula in terms of the frequency of post-dialysis vascular access procedures and complications and their economic impact” Al-Balas et al (2019).

Abstract:

BACKGROUND: Patients with advanced chronic kidney disease frequently undergo arteriovenous fistula creation prior to reaching end-stage renal disease (ESRD), but some initiate hemodialysis with a central vein catheter, if their fistula is not yet usable. The clinical consequences of the delay in fistula use have not been quantified in such patients.

METHODS: We identified 205 patients with predialysis fistula creation from 2006 to 2012 at a large dialysis center who started hemodialysis within the ensuing 2 years. Of these, 91 (44%) initiated dialysis with a catheter and 114 (56%) with a fistula. We compared these 2 groups in terms of their annual frequency of percutaneous vascular access procedures, surgical access procedures, total access procedures, hospitalizations due to catheter-related bacteremia, and overall cost of vascular access management.

RESULTS: The 2 groups were similar in demographics, comorbidities, and fistula type. As compared to patients initiating dialysis with a fistula, those initiating with a catheter had a significantly greater annual frequency of percutaneous access procedures (1.29 [1.19-1.40] vs. 0.75 [0.68-0.82]), surgical access procedures (0.69 [0.61-0.76] vs. 0.59 [0.53-0.66]), total access procedures (1.98 [1.86-2.11] vs. 1.34 [1.26-1.44]), and hospitalizations due to catheter-related bacteremia (0.09 [0.07-0.12] vs. 0.02 [0.01-0.03]). Patients initiating dialysis with a catheter incurred a median overall annual cost of access management that was USD 2,669 higher (USD 6,372 [3,121-12,242] vs. USD 3,703 [1,867-6,953], p = 0.0001).

CONCLUSION: Among patients with predialysis fistula creation, those initiating dialysis with a catheter versus a fistula had substantially more frequent percutaneous, surgical, and total vascular access procedures, as well as hospitalizations due to catheter-related bacteremia. The annual cost of access management was substantially higher in those
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