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. 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.

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
initiating dialysis with a catheter.

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