

Physician - Vascular Access

[MSB-65]

Investigation of the Effect of Ipsilateral Central Venous Catheter on Arteriovenous Fistula

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Türk Gogus Kalp Dama 2024;32(Suppl 2):MSB-65

Doi: 10.5606/tgkdc.dergisi.2024.msb-65

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Received: September 13, 2024 - Accepted: September 29, 2024

Objective: This study aimed to assess the association between a history of ipsilateral central venous catheter (CVC) and arteriovenous fistula (AVF) failure.

Methods: Ninety-eight patients who underwent primary distal radiocephalic AVF between July 2023 and June 2024 were retrospectively examined through institutional records and follow-up examination notes.

Results: Arteriovenous fistula failure was observed in 28 (28.6%) patients. Sixteen (16.3%) of these patients had ipsilateral CVCs at the time of operation, and 31 (31.6%) had a history of ipsilateral CVC. The analysis revealed a statistically significant association between ipsilateral CVC at the time of operation and AVF failure ($p=0.03$). No relationship was observed between the history of ipsilateral CVC and AVF failure. Those with higher levels of low-density lipoprotein cholesterol and hemoglobin A1c had higher AVF failure rates ($p=0.045$ and $p=0.048$, respectively).

Conclusion: Although the history of ipsilateral CVC was not associated with AVF failure, ipsilateral CVC at the time of the operation was found to be related to higher AVF failure rates. Avoiding interventions to ipsilateral vasculature preoperatively appears to be beneficial for AVF success. Moreover, preoperatively optimizing patients' blood sugar and cholesterol levels may be favorable.

Keywords: Arteriovenous fistula, arteriovenous fistula failure, central venous catheter.