

Correlations between vascular access type and antibiotic use in long-term dialysed patients

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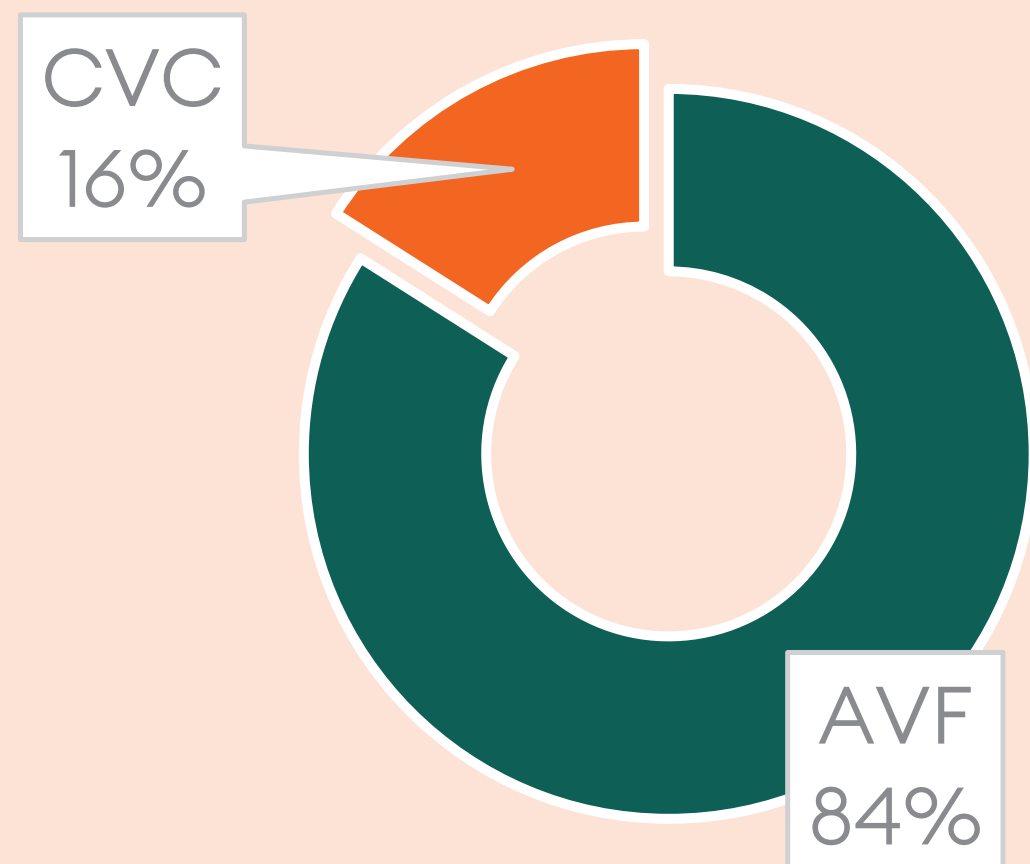
Summary

Long-term survival in patients with chronic kidney disease undergoing hemodialysis remains a significant challenge for patients, families, and healthcare providers. The type of vascular access used plays a crucial role in infection risk and overall prognosis and quality of life. Long term survival dramatically decreases after 10 years.

1 Material and method

- Study population: 200 patients undergoing hemodialysis treatment, divided according to the type of vascular access (CVC, AVF, AVG) in one dialysis clinic.
- Survival rate at 10-year survival rate (12.27%) and the 15-year (6%).
- A majority of long-term survivors had an arteriovenous fistula (AVF), with 84% in the 10-year cohort and 92% in the 15-year cohort.

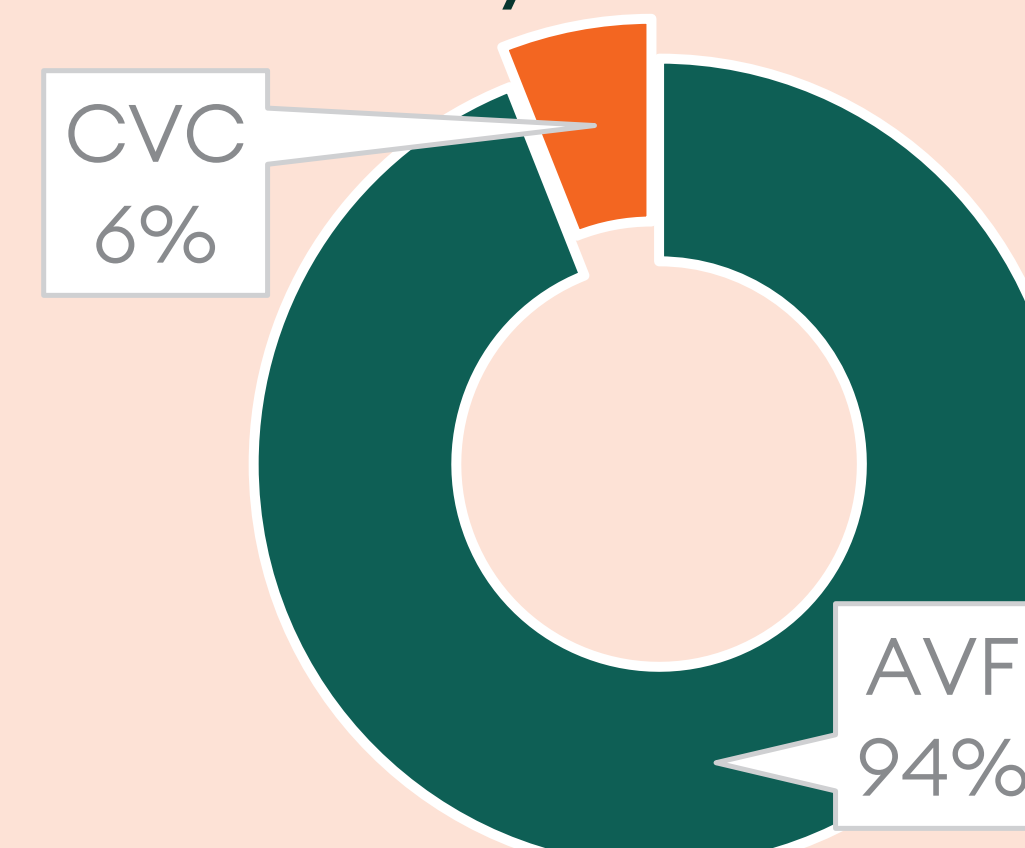
Distribution of % access survival in 10 years cohort



2 Methodology

- We assessed antibiotic use over one year, comparing AVFs and central venous catheters (CVCs) concerning infection treatment and prevention.

Distribution of % access survival in 15 years cohort



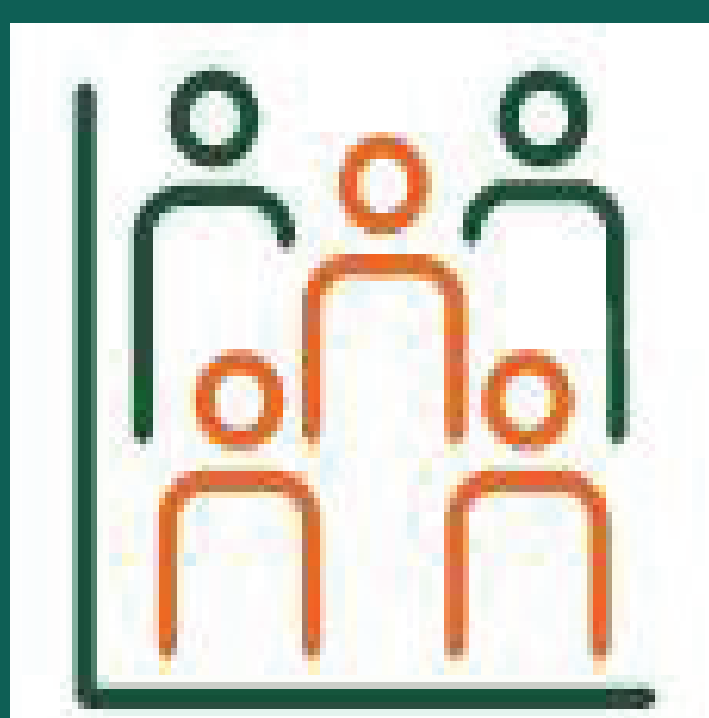
3 Results

Antibiotic use for vascular access infections was significantly lower among AVF patients, with only 6% in the 10-year group and 4% in the 15-year group requiring treatment.

For all other cases, antibiotics were prescribed with optimal dose and period to reduce the risk of antibiotic resistance.

Vascular access infections were not associated with hospitalizations and were treated in the clinic.

Conclusions



A well-maintained AVF is associated with better long-term survival, reduced infection rates, and improved quality of life in dialysis patients. Achieving this requires a multidisciplinary approach, including patient education on AVF care, well-trained dialysis staff, strict hygiene protocols, and access to experienced vascular surgeons. These measures not only improve vascular access longevity but also minimize antibiotic use, thereby reducing the risk of antibiotic resistance and enhancing long-term outcomes.



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