

Publication Brief

Preemptive Correction of Arteriovenous Access Stenosis: A Systematic Review and Meta-analysis of Randomized Controlled Trials.

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BACKGROUND

Preemptive correction of a stenosis in an arteriovenous (AV) access (fistula or graft) that is adequately providing hemodialysis (functional AV access) may prolong access survival as compared to waiting for signs of access dysfunction to intervene (deferred salvage). However, the evidence in support of preemptive intervention is controversial. We

OBJECTIVE

To evaluate the benefits and harms of preemptive versus deferred correction of AV access stenosis.

STUDY DESIGN

- Systematic review and meta-analysis of randomized controlled trials;
- Cochrane Kidney and Transplant Specialised Register and EMBASE to October 15, 2015 searched for:
 - Active access surveillance (flow measurement and Doppler or venous pressure) and preemptive correction of a newly identified stenosis versus routine clinical monitoring and deferred salvage, or preemptive correction of a known stenosis versus deferred salvag
 - Access loss (primary outcome) and thrombosis (overall and by access type), infection, mortality, hospitalization, and access-related procedures.
- 14 trials (1,390 participants; follow-up, 6-38 months) included in analysis.

FINDINGS

- Relative to deferred salvage, preemptive correction of AV access stenosis had a nonsignificant effect on risk for access loss (risk ratio [RR], 0.81; 95% CI, 0.65-1.02; I(2)=0%) and a significant effect on risk for thrombosis (RR, 0.79; 95% CI, 0.65-0.97; I(2)=30%).
- Treatment effects were larger in fistulas than in grafts for both risk for access loss (subgroup difference, P=0.05) and risk for thrombosis (subgroup difference, P=0.002).
- Results were heterogeneous or imprecise for mortality, rates of access-related infections or procedures, and hospitalization.;

CONCLUSION

Preemptive stenosis correction in a functional AV access does not improve access longevity. Although preemptive stenosis correction may be promising in fistulas, existing evidence is insufficient to guide clinical practice and health policy. Small number and size of primary studies limited analysis power limited study.

Reference:

Ravani P, Quinn RR, Oliver MJ, Karsanji DJ, James MT, MacRae JM, Palmer SC, Strippoli GF, "Preemptive Correction of Arteriovenous Access Stenosis: A Systematic Review and Meta-analysis of Randomized Controlled Trials.," *Am J Kidney Dis.* 2016 Mar;67(3):446-60. <https://www.ncbi.nlm.nih.gov/pubmed/26776537> (Transonic Reference # HD10782R)