

## Regional Versus Local Anesthesia for Haemodialysis Arteriovenous Fistula Formation

SCIENCE

[Abstracts](#)

Key Take-Away:

Haemodialysis includes a procedure for vascular access termed as arteriovenous fistula formation. Different anesthetics can improve the success rate of this surgical procedure by affecting vessel diameter and blood flow. A significant lower failure rate among patients undergoing regional distinguished with local anesthesia was inferred from this study.

Arteriovenous fistula (AVF) formation is the most common vascular access procedure for patients requiring haemodialysis.

ABSTRACT:

Background:

Arteriovenous fistula (AVF) formation is the most common vascular access procedure for patients requiring haemodialysis. However, it is associated with high failure rates, influenced by vessel diameter and arterial inflow.

Mode of anesthesia may affect these factors, and subsequently AVF maturation rates. The aim was to perform a systematic review and meta-analysis to assess the effect of anesthesia type for autologous primary radiocephalic or brachiocephalic AVF creation on subsequent fistula failure rates.

[Expand section](#)

Methods:

The online databases of Medline, EMBASE, CINAHL, The Cochrane Database of Systematic Reviews, ClinicalTrials.gov and Google Scholar as well as vascular and anesthesiology conference abstracts were searched on August 1, 2016.

Randomized control trials (RCTs) that reported the effect of anesthesia type on subsequent failure rates during autologous AVF creation were included. Two independent reviewers performed the methodological assessment and data extraction. Random effects models were used to calculate pooled effect size estimates. A sensitivity analysis was also carried out.

[Expand section](#)

Results:

Four RCTs (286 patients) were identified with 286 autologous AVFs.

There were 48 fistula failures. Most of the studies suffered from significant methodological flaws. There was a significantly lower failure rate among patients undergoing regional (12/143) compared with local (36/143) anesthesia (OR 0.28, 95% CI 0.14–0.57). On sensitivity analysis, having excluded the most heavily weighted study, the results remained significant (OR 0.20, 95% CI 0.05–0.75).

[Expand section](#)

Conclusion:

The use of regional anesthesia is associated with lower AVF failure rates when compared with local anesthesia in patients undergoing primary forearm AVF formation for haemodialysis.

Source: European Journal of Vascular and Endovascular Surgery

Link to the source: [http://www.ejves.com/article/S1078-5884\(17\)30077-1/fulltext?rss=yes](http://www.ejves.com/article/S1078-5884(17)30077-1/fulltext?rss=yes)

The original title of the article: Regional versus local anesthesia for haemodialysis arteriovenous fistula formation: A systematic review and meta-analysis

Authors: R. Cerneviciute et al

[Expand section](#)