Doxycycline versus placebo

Full citation	**Hackmann AE, Rubin BG, Sanchez LA et al. (2008) A randomized, placebo-controlled trial of doxycycline after endoluminal aneurysm repair. Journal of vascular surgery 48, 519-526**
Study details	Study type: randomised, placebo-controlled, double-blind trial Location(s): USA Aim(s): to evaluate the effect of a MMP inhibitor, doxycycline, on EVAR Study dates: not reported Follow-up: 6 months Sources of funding: Barnes-Jewish Hospital Foundation, National Institutes for Health, Department of Veteran's Affairs, Flight Attendants Medical Research Institute, and the American Heart Association
Participants	Population: patients with AAAs undergoing elective EVAR Sample size: 59; sex-specific proportions not reported Inclusion criteria: patients with AAAs less than 5.0 cm in diameter were included Exclusion criteria: not reported Baseline characteristics: • Mean age: Doxycycline group, 68.9 years; control group, 74.0 years • Sex: Doxycycline group, 80% male; control group, 79.2% male • Mean aneurysm size: Doxycycline group; 57.2 mm; control group, 57.2 mm • Hypertension: Doxycycline group, 90%; control group, 79.2% • Coronary artery disease: Doxycycline group, 60%; control group, 45.8% • Diabetes: Doxycycline group, 10%; control group, 12.5% • Peripheral artery disease: Doxycycline group, 40%; control group, 29.2% • COPD: Doxycycline group, 30%; control group, 41.7% • Renal insufficiency: Doxycycline group, 10%; control group, 25%
Intervention	Doxycycline 100 mg b.i.d, starting from the day after surgery and continued for 6 months
Comparison	Matched placebo
Outcomes measures	Aneurysm diameter, graft migration, incidence of endoleak, adverse events
Risk of bias assessment	1. Random sequence generation (selection bias): Unclear risk – Authors stated that randomisation was performed in the pharmacy utilising a pre-assigned table of codes. No further details were provided.

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(using Cochrane risk of bias tool)	2. Allocation concealment (selection bias): Unclear risk – It is unclear whether treatment allocations were concealed. 3. Blinding of participants and personnel (performance bias): Low risk – Participants were blinded to treatment allocations as both doxycycline and placebo tablets had similar packaging and coating. 4. Blinding of outcome assessment (detection bias): Low risk – Data were collected from the CT scans, by individuals blinded as to treatment group 5. Incomplete outcome data (attrition bias): High risk – At final follow-up, 7 participants in the doxycycline group and 4 participants in the placebo group were either lost to follow-up or withdrew from the study. 6. Selective reporting (reporting bias): High risk – Authors reported some outcome measures for the whole study population whereas other outcome measures were only reported for the intervention group; omitting results for the placebo group. 7. Other bias: High risk – Patients in the placebo group were significantly older than those in the doxycycline group. A higher proportion of patients in the doxycycline group were smokers. 8. Overall risk of bias: High Directness: directly applicable