Positive blood cultures in abdominal aortic and aorto-iliac graft infections. Does it really indicate the causative pathogen of infection?

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Background: Prosthetic vascular graft infection is an infrequent and potentially fatal complication of abdominal aortic aneurysm surgery and occlusive vascular disease. The predictive value of blood cultures in accurately identifying the causative pathogen (or pathogens) has not been determined.

Material/methods: We studied the compatibility between results of blood and graft cultures obtained from patients suffering from late-onset (>4 months after surgery) infections of abdominal prosthetic vascular grafts.

Results: Among 17 patients who suffered from late-onset abdominal prosthetic vascular graft infection, only in 3 cases (17.6%) the same microorganisms isolated from blood cultures were also identified by direct cultures from excised grafts or perigraft tissues. Three patients (17.6%) had negative blood cultures and the rest (n=11) (64.7%) had different growth of microorganisms from the blood and graft cultures. Three patients were diagnosed with chronic Q fever vascular graft infection, all of whom had “positive” blood cultures. Based on graft cultures, Staphylococcus epidermidis and Escherichia coli were responsible for nearly 50% of cases.

Conclusions: The yield of blood cultures in late-onset abdominal prosthetic vascular graft infections is low. Presence of microorganisms in blood cultures does not necessarily indicate a causal relationship with graft infection. An empirical broad spectrum antimicrobial therapy is advised in all suspected cases until a definitive etiology has been made.