

P2371 18F-FDG PET/CT-guided treatment duration in patients with high-risk *Staphylococcus aureus* bacteraemia: a proof of principle

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Background: Current guidelines recommend intravenous antibiotic therapy for at least 4 weeks in patients with high-risk *Staphylococcus aureus* bacteremia (SAB), because of the risk for metastatic infection. We evaluated the safety of shorter duration of treatment in patients with high-risk SAB without signs of metastatic infection at presentation, using standard 18F-FDG PET/CT and echocardiography.

Materials/methods: Retrospective analyses were performed of patients with SAB admitted between 2013 and 2017 in two medical centers. Patients with risk factors for complicated bacteremia (community acquisition, persistently positive blood cultures, >72h of fever, or foreign body materials present), a normal echocardiography and an 18F-FDG PET/CT without signs of metastatic infection were included (cases) and compared to patients with uncomplicated bacteremia (absence of any of the risk factors and no known metastatic disease, controls). Primary outcomes were three-months' SAB-specific mortality rate and recurrent infection. Secondary outcome was overall mortality.

Results: We included 36 cases and 40 controls. Both groups had similar treatment duration (15.9 days versus 15.4 days). No deaths occurred as a consequence of SAB in the cases, compared to one in the control group. One relapse occurred in the case group and 2 in the control group. Overall mortality did not differ between the groups (19.4% versus 15.0%, $p=0.64$).

Conclusions: This study suggests that intravenous treatment for 2 weeks in high-risk patients with SAB without endocarditis and absence of metastatic infection on 18F-FDG PET/CT is safe. A diagnostic-driven approach using 18F-FDG PET/CT to determine treatment duration in high-risk SAB seems feasible, and allows tailoring treatment to individual patients.

