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P2360 The T2Bacteria assay is a sensitive and rapid detector of bacteraemia that can be initiated in the emergency department and has potential to favourably influence subsequent therapy

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Background: Bacteremia is a major societal burden and treatment is challenged by a species-dependent response to antibiotics. The T2Bacteria Panel is an FDA-cleared and culture-independent assay for detection of bacteremia due to the most common ESKAPE pathogens: *Escherichia coli*, *Enterococcus faecium*, *Staphylococcus aureus*, *Klebsiella pneumoniae*, and *Pseudomonas aeruginosa*, and provides identification in about 4 hrs directly from blood. However, there are limited data describing how the assay could affect patient care by the emergency department (ED).

Materials/methods: ED patients from a Louisiana and a Florida center were enrolled as part of the T2Bacteria Panel clinical study, which was prospective and non-interventional. Blood draws for blood culture (BC) and T2Bacteria were matched in time and anatomic location. We defined potential favorable impact on patient care from the positive T2Bacteria panel results.

Results: Data from 137 ED patients were evaluated. Relative to BC, T2Bacteria showed 100% positive percent agreement (12/12) and 99.2% negative percent agreement (124/125). In addition, for species on the T2Bacteria Panel, the T2Bacteria assay detected 4 (25%) more positives associated with infection. The average time to identification was 56.6 hrs faster than BC. The T2Bacteria assay covered 70.5% of all species detected by BC. Finally, review of the 16 patients' records revealed, relative to actual care, the T2Bacteria assay could have potentially focused therapy in 8 patients, reduced time to a species-directed therapy in 4 patients, and reduced time to effective therapy in 4 patients.

Conclusions: In this ED population, the T2Bacteria assay was a rapid and sensitive detector of bacteremia from the most common ESKAPE pathogens (*E. coli*, *E. faecium*, *S. aureus*, *K. pneumoniae*, and *P. aeruginosa*) and showed the theoretical potential to influence subsequent patient therapy, ranging from antibiotic de-escalation to faster time to effective therapy.