Two months later the patient was re-admitted for N. cyriacigeorgica bacteremia and a pulmonary embolism. During his hospital stay, the patient had a STEMI, but due to multiple comorbidities did not undergo cardiac catheterization. We report here on an unusual case of N. cyriacigeorgica endocarditis in a patient with COPD. Other than COPD, the patient had no known risk factors for N. cyriacigeorgica, including chronic steroid use.

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1085. Enterococcal Cardiac Implantable Electronic Device (CIED) Infections: Clinical Features and Outcomes
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Background. Unlike enterococcal native and prosthetic valve infective endocarditis (IE), enterococcal CIED infections are not well described.

Methods. Data from the Multicenter Electrophysiologic Disease Infection Collaboration (MEDIC), a prospective, observational, multinational cohort study of CIED infections, were used to provide a descriptive analysis of adult patients with CIED infections due to enterococcal species.

Results. Of 433 patients, 21 (4.8%) were diagnosed with enterococcal CIED infection. Specific data on enterococcal species and antimicrobial susceptibilities were not recorded. The mean age was 70.8 years. No patient had previous CIED infection. Twelve patients (57%) had permanent pacemakers, 5 (24%) had implantable cardioverter defibrillators, and 4 (19%) had biventricular devices. Among the 21 infections, 3 (14%) were categorized as CIED-related bloodstream infections and 18 (86%) as IE; no patient had isolated pocket infection. Of the IE cases, four were valvular IE, eight were lead IE, and six were both. Fourteen cases of IE (78%) were definite by the modified Duke criteria. Median time from last device procedure to infection was 510 days (range 37–2,952 days). The most common presenting symptom was fever (43%), five patients (24%) exhibited local evidence of pocket infection. All 21 patients underwent TEE with vegetations demonstrated in 17 (81%). Blood cultures grew enterococci from all patients. The most common antimicrobial regimen was a penicillin plus an aminoglycoside (38%); two patients (9.5%) received ampicillin plus ceftriaxone. Antibiotics were given for a median of 43 days. Only 14 patients (67%) had complete device removal; the seven patients retaining their device were judged to be at high risk for extraction. There was one death during the index hospital stay with four additional patients dying over the 6 months after therapy (overall mortality 24%); two of the seven patients retaining their CIED died.

Conclusion. Enterococci caused 4.8% of all CIED infections in our cohort. Most infections appeared to be de novo in origin with late onset. IE was the most common infectious syndrome. A penicillin plus an aminoglycoside, given for 6 weeks, was the most frequent therapy. Only 67% of patients underwent device removal. At 6 months follow-up, no relapses had occurred but overall mortality was 24%.

1087. Aortic Graft Infections Caused by Propionibacterium acnes at the MinneapolisVA Veterans Affairs Health Care System (MVAVHCS) 2007–2017
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Background. Propionibacterium acnes is a Gram-positive microaerophilic bacterium and part of the human skin flora. The ability of P. acnes to cause infections has been recognized, particularly in the presence of hardware. We aimed to define the frequency of P. acnes infections, with a focus on aortic graft infection.

Methods. We used microbiology laboratory records at the Minneapolis VA Veterans Affairs Health Care System to identify all P. acnes cultures from January 2007 to January 2017. We retrospectively reviewed all adult (≥18 years) patient’s medical records to identify associated infectious syndromes. Case definitions by the management of Aortic Graft Infection Collaboration were used to classify aortic graft infection cases.

Results. We identified 328 positive P. acnes cultures during the study period. P. acnes was classified as a pathogen in 48 (15%), a pathogen of undetermined significance in 70 (21%), and a contaminant in 210 (64%) cases. We identified three cases where P. acnes infection was associated with 2.5% of infections caused by P. acnes. Median age (range) at presentation was 74 years (67–83). Symptoms included pain (n = 3), fever (n = 2), and altered mental status (n = 1). None were hypotensive. All patients had at least one revision for endoleak prior to presentation. Median time from symptoms to diagnosis was 180 days (78–140). Microbiologic diagnosis was obtained by blood cultures, percutaneous peri-graft tissue aspiration, and operative culture in each patient, respectively. Infection was complicated by metastatic abscess in one patient. All cultures grew on Day 7. All patients were treated with IV ceftriaxone, and two were transitioned to life-long oral suppressive antibiotic therapy. Two patients had complete removal of infected material. No relapse was documented and survival was 100% at 1 year follow-up.

Conclusion. Aortic graft infection is an uncommon subset of infections caused by P. acnes. Clinical course is indolent and diagnosis is delayed due to nonspecific clinical presentation. In contrast to endovascular graft infection caused by other organisms, mortality is low when treated with appropriate antibiotic therapy and removal of infected material. The current laboratory practice of holding blood cultures for 5 days may need to be altered when P. acnes is a potential cause of infection.

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1088. Ultrasensitive Detection of C. difficile Toxins in Stool Using Single Molecule Counting Technology: A Multicenter Study for Evaluation of Clinical Performance
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Background. The incidence of embolic events (EE) is high in patients with infective endocarditis (IE). EE influence patient management in different settings because they are minor criteria in the Duke classification and may lead to changes in medical therapy or surgical strategy. If current guidelines suggest that systematic thoraco-abdomino-pelvic CT scan (TAP-CT) may be helpful, reliable data are lacking. The main objective of this study was to describe how systematic TAP-CT affects the diagnosis of IE and the therapeutic management in patients with IE and the incidence of contrast-induced acute kidney injury (CI-AKI).

Methods. In this multicenter cohort study between January 2013 and July 2016, we included consecutive patients with IE. CI-AKI was defined according to the Duke-modified criteria, and after validation by the endocarditis teams. The main exclusion criterion was the absence of TAP-CT scan. We compared the Duke classification diagnosis data and treatment data (medical and/or surgical) regarding the presence or the absence of EE on the CT and investigated the tolerance of this examination as well.

Results. Of the 522 patients included in this study, 217 (41.6%) had one or more EE on the TAP-CT. The two major Duke modified criteria were found in 397 patients (76.8%) and 457 patients (87.6%) had a definite endocarditis. On the basis of TAP-CT results in asymptomatic patients, diagnostic classification was upgraded from possible endocarditis to definite endocarditis for only four cases which represent 0.8% of the population. The presence of EE on CT did not modify the duration of antibiotic treatment (P = 0.55) and the decision of surgical treatment (P = 0.39). Specific treatment of the EE was necessary in 42 patients (8.0%) but only nine of these EE (1.9%) were asymptomatic. CI-AKI was observed in 78 patients (14.9%).

Conclusion. The CT-scan findings slightly affected diagnosis of IE. The impact on the therapeutic management of IE and the incidence of CI-AKI although underestimated. Additional studies are needed to assess whether CT-scan improves patient outcomes, leads to unnecessary procedures and increased costs.

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Reproducibility. zen stool samples and up to three freeze–thaw cycles, and provides results with high sensitivity and specificity.

No cross-reactivity or interference were detected. The repeatability was 99%, and sample volume was reduced by 98% compared to other assays, allowing for a standalone, single-step solution for detection of C. difficile toxins in patients with suspected CDI.

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Analytical Performance of an Ultrasensitive Immunoassay for Detection of Cladostrium difficile Toxins A/B

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Background. Cladostrium difficile infection (CDI) is the main cause for nosocomial diarrhea. Currently available assays for the diagnosis of CDI show deficits in sensitivity, specificity, and/or turnaround time. The Singulex Clarity ™ assay, in development for the Singulex Clarity ™ system, was designed to provide an accurate and automated detection of C. difficile toxins A (TcdA) and B (TcdB) in stool. Here, the analytical performance of the assay is reported.

Methods. Limit of detection (LoD) for TcdA and TcdB in stool and buffer was determined, and a preliminary cutoff, as compared with cell cytotoxicity neutralization assay (CCNA), was established. Analytical reactivity against 38 toxigenic and nontoxigenic C. difficile strains of eight different toxigenotypes was determined. Cross-reactivity against 53 other gastrointestinal pathogens and potential interference by 11 endogenous and exogenous substances were determined. Reproducibility was tested with triplicate samples (n = 85), and stability was evaluated in samples stored at room temperature, refrigerated, and frozen conditions, and subjected to three freeze-thaw cycles.

Results. The LoDs for TcdA and TcdB were 0.8 and 0.3 pg/mL in buffer, and 2.0 and 0.7 pg/mL in stool, respectively. Using a preliminary cutoff, the assay demonstrated 96.3% sensitivity and 96.1% specificity compared with CCNA. The Singulex Clarity ™ assay detected C. difficile toxins A/B in two stool samples that were stable up to 8 hours in room temperature, 1 week in 2–8°C, 6 months in −70°C, and up to three freeze-thaw cycles.

Conclusion. The Singulex Clarity ™ assay (in development) can detect TcdA and TcdB at very low concentrations and it has high sensitivity and specificity compared with CCNA. The assay demonstrates reactivity to common C. difficile strains, does not show cross-reactivity to common gastrointestinal pathogens, is robust against common interferents, allows for toxin detection in both fresh and frozen stool samples and up to three freeze-thaw cycles, and provides results with high reproducibility.

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