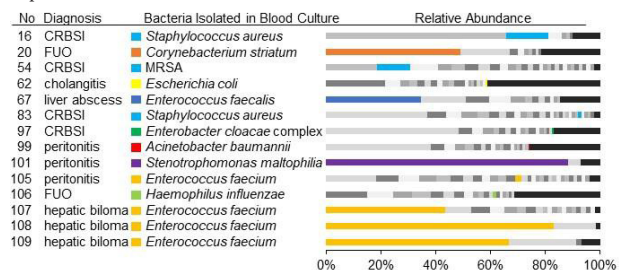Relative abundance of microorganisms at the species level in plasma from patients with positive blood cultures

Figure 3. Relative abundance of microorganisms at the species level in plasma from patients with positive blood cultures
Representative results of 14 patients are shown. Colored bars indicate that the same bacteria were isolated from next-generation sequencing and blood culture samples. Black bars indicate microorganisms with < 1% relative abundance. CRBSI, catheter-related bloodstream infection; FUO, fever of undetermined origin; MRSA, methicillin-resistant *Staphylococcus aureus*.

Conclusion. The metagenomic NGS technique has great potential in revealing the plasma microbiome and is useful as a comprehensive diagnostic procedure in clinical settings. Temporal dynamics of specific microorganisms may be used as indirect markers for the determination of immunocompetence and ACR in LT recipients.

Disclosures. **All Authors**: No reported disclosures

1213. A TRAIL/IP-10/CRP Signature Distinguishes between Viral and Bacterial Infection in Chronic Obstructive Pulmonary Disease Patients

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Session: P-55. New Approaches to Diagnostics

*Background.* Challenges in determining the etiology of acute exacerbations of chronic obstructive pulmonary disease (COPD) lead to significant overuse of antibiotics. A new host-response assay that integrates the levels of three proteins (TRAIL, IP-10, and CRP) was shown to exhibit high performance in distinguishing between bacterial and viral disease in two double-blind pediatric validation studies. Here we sought to evaluate its ability to differentiate bacterial from viral infection in adult COPD patients with suspicion of lower respiratory tract infection (LRTI).

Methods. The study population included 492 febrile adult patients prospectively recruited in "Observer", an EU Horizon 2020 funded study (grant #684589). Patient etiology was determined by majority expert panel based on clinical, laboratory, multiplex PCR, radiological and follow-up data. We compared the expert panel diagnosis with the assay that gives three possible outcomes: viral, bacterial (including viral with bacterial coinfection) or equivocal.

Results. 45 out 492 adult patients prospectively recruited with suspicion of LRTI had a medical history of COPD. Of these, 20 cases were assigned as suspected viral infections and 19 as suspected bacterial infections (Figure 1). Antibiotics were prescribed to 19/19 bacterial infections and 16/20 viral infections. The assay correctly classified 19/19 bacterial infections and 12/20 viral infections, with 2 viral cases classified by the assay as bacterial and 6 receiving an equivocal outcome. These

data support the assay's potential to reduce antibiotic overuse from 16/20=80% to 8/20=40% (P=0.01).

FIgure 1: Flow through of COPD patients in prospective performance validation study "Observer"
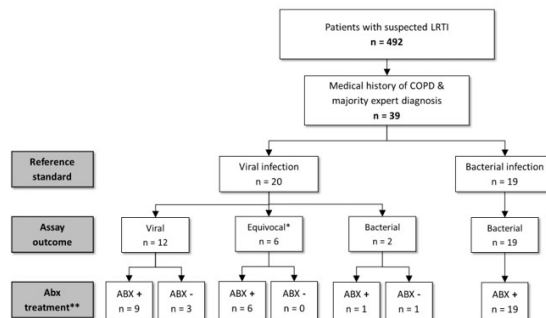
Figure 1: Flow through of COPD patients in prospective diagnostic performance validation study "Observer"
*Equivocal= an equivocal outcome dose not provide diagnostic information. **Abx treatment as reported on medical record.

Conclusion. A new TRAIL/IP-10/CRP signature has potential to significantly reduce antibiotic overuse for patients with suspected LRTI and a history of COPD without missing bacterial infection.

Disclosures. Meital Paz, MD, MeMed Ltd. (Employee) Noa Avni, PhD (Employee) Michal Stein, MeMed Ltd. (Employee) Liran Shani, MD, MeMed Ltd. (Employee) Tanya Gottlieb, PhD, MeMed (Employee) Kfir Oved, MD, PhD, MeMed (Employee) Eran Eden, PhD, MeMed (Employee)

1214. Clinical characteristics of patients with adrenal insufficiency presenting fever

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Session: P-55. New Approaches to Diagnostics

Background. The aim of the present study is to analyze the clinical characteristics of adrenal insufficiency patients presenting fever.

Methods. A single-center retrospective study was conducted in an 846-bed tertiary hospital in South Korea. All hospitalized adult patients (age ≥19 years) who diagnosed with adrenal insufficiency between March 1, 2018 and June 30, 2019 were recruited. Only the first event per patient was included and patients were excluded if they: (1) had proven structural problems with adrenal or pituitary gland, (2) had a history of chemotherapy within 6 months prior to the diagnosis of adrenal insufficiency, and (3) had other medical conditions which may cause fever.

Results. A total of 150 cases were included: 45 (30.0%) had fever and 105 (70.0%) did not have fever at the time of diagnosis of adrenal insufficiency. The proportion of female patients was lower in patients with fever compared to those without fever (44.4% vs. 67.6%, P =0.008). In addition, patients with fever were diagnosed at 13.98 ± 14.51 days, which was later than 6.47 ± 6.91 of patients without fever (P < 0.001). Higher proportion of patients with fever had history of surgical procedure within 6 months (33.3% vs. 11.4%, P =0.001) and antibiotic usage at the time of diagnosis (80.0% vs. 17.1%, P < 0.001) compared to those without fever. Among clinical manifestations, general weakness (91.1% vs. 66.7%, P =0.002), headache (15.6% vs. 4.8%, P =0.044), and cough (17.8% vs. 4.8%, P = 0.022) were more frequently observed in patients with fever. There were no significant differences in clinical outcomes between two groups. According to the multivariate analysis, female sex (OR =0.32, 95% CI: 0.12–0.86, P = 0.024) lowered the risk for adrenal insufficiency with fever. In comparison, history of surgical procedure within 6 months (OR = 4.35, 95% CI: 1.23–15.39, P =0.023), general weakness (OR = 7.21, 95% CI: 1.71–30.37, P =0.007), and