P1571 EVALUATION OF THE CLINICAL IMPACT OF BONE MARROW CULTURES IN CURRENT MEDICAL PRACTICE

**Topic:** 30. Infections in hematology (incl. supportive care/therapy)

Gal Sharvit¹, Daniel Schwartz¹, Gabriel Heering¹, Alexander Shulman¹, Abraham Avigdor¹, Galia Rahav¹, Amos Toren¹, Arnon Nagler¹, Jonathan Canaani³

¹ Sheba Medical Center, Givatayim, Israel

**Background:**

The clinical yield and benefit of performing bone marrow cultures for various clinical indications has been challenged and their clinical necessity remains debatable.

**Aims:**

To characterize a large cohort of patients who had bone marrow cultures performed in terms of baseline clinical, laboratory, microbiological, and imaging data, and determine whether these parameters were predictive of a diagnostic bone marrow culture.

**Methods:**

A single center retrospective analysis of all patients who underwent a bone marrow study comprising bone marrow cultures from January 1, 2012, through March 1, 2018. Data on comorbidities, baseline laboratory parameters, and indication for performing a bone marrow culture were extracted from the institution's electronic medical records system.

**Results:**

The analyzed cohort consisted of 139 patients admitted to our institution between the years 2012-2018 with a median age of 46 years (range 4 months-85 years). The most common indication for a bone marrow study was workup of a fever of unknown origin (105 patients, 76%) while investigation for infection in immunocompromised patients accounted for 22 cases (16%) and suspected tuberculosis was the reason for acquisition of bone marrow cultures in 6 patients (4%). Of all patients who underwent bone marrow examinations with culture studies, only 3 patients had positive bone marrow cultures yielding in 2 patients a diagnosis of Mycobacterium avium and in one patient a microbiologically unclassifiable fungal infection. A univariate analysis revealed that mean age, hemoglobin level, platelet count, c-reactive protein levels, gender, indication for bone marrow study, yield of blood cultures, and contribution of imaging studies and bone marrow pathology results were not significantly different between patients with diagnostic bone marrow cultures and those with non-diagnostic bone marrow cultures. Mean white blood cell count was found to be significantly lower in patients with diagnostic bone marrow cultures (2.4 \times 10^3/\mu L versus 8.7 \times 10^3/\mu L; P=.038).

**Summary/Conclusion:**

For most patients, performance of bone marrow cultures holds limited clinical value.