In the cohort with CMV infection, cytokine responses to TLR ligands were even lower during the acute CMV infection compared with the end of prophylaxis, although this was significant only for IL-10 production after R848 stimulation (P = 0.034). There was no influence of CMV viral load or duration of viremia on cytokine levels.

**Conclusion.** Response to non-CMV antigens during CMV infection was blunted supporting the clinical observation in transplant recipients that CMV infection increases susceptibility to bacterial, fungal, and other viral infections. However, inherent differences in patients that are neither directly related to CMV nor to their net level of immunosuppression also contribute to this increased susceptibility, as cytokine levels at the end of prophylaxis were lower among patients with compared with those without subsequent CMV infection.

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1534. Prevalence and Outcome of Neutropenic Enterocolitis Among Pediatric Acute Myeloid Leukemia Patients: A Developing Country Experience

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**Session:** 151. Viruses and Bacteria in Immunocompromised Patients

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**Background.** Neutropenic enterocolitis (NEC) is a life-threatening disease with substantial morbidity and mortality, seen primarily in patients with hematologic malignancies. The frequency of NEC has increased with the widespread use of chemotherapeutic agents such as the taxanes, which cause severe gastrointestinal mucositis.

**Methods.** This was a retrospective study at the National Cancer Institute, Cairo University. The computerized records were screened for ultrasound or computerized tomographic scan requests for abdominal pain for all acute myeloid leukemias patients (2012–2016). Retrospective case note analysis was used to collect clinical data for patients with features of Typhlitis. D 30 morbidity was reported.

**Results.** The incidence of NEC among our inpatients was 24% (49/205). Forty-three children had radiologically confirmed typhlitis, and six had clinical features alone. Most (93%) patients were profoundly neutropenic (ANC <100). All of the patients were subjected to conservative management. All of them needed ICU admission. Eighteen children had a variable period of bowel rest, including 12 patients who were supported with total parenteral nutrition. Three patients had laparotomy that revealed extensive colonic bowel necrosis (1), perforated bowel loop (1), and a perforated appendix (1). Two out of three cases of Laparotomy were diagnosed with Mucormycosis. 30-Days mortality was 44.8% (22/49). Relapsing typhlitis in subsequent courses was observed in 6/27 (22%) patients. Fulminating Gram-negative sepsis without surgical intervention was the leading cause of death in this cohort.

**Conclusion.** The diagnosis of typhlitis was based on clinical features, supported by radiologic evidence in almost half of the study group. Surgical intervention should be reserved for specific complications or where another surgical pathologic condition cannot reasonably be ruled out. Though rare, fungal infection should be suspected specially in cases with worsening signs of typhlitis despite broad antifungal coverage.

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Conclusion. DDTB presents early as febrile illness after SOT, and carries a high mortality risk. Donors should be screened, with particular attention to risk factors.

Table 1: Summary of Characteristics of Donors and Recipients With DDTB

| Characteristics | N (% or range) |
|-----------------|----------------|
| Age, years      | 48 (23–68)     |
| Gender, M (N = 35) | 21 (60)        |
| Type of transplant |                |
| Kidney          | 13 (36.1)      |
| Liver           | 6 (16.7)       |
| Lung/heart-lung | 16 (44.4)      |
| Heart           | 1 (2.8)        |
| N/T-cell depleting agent (N = 9) | 5 (55.6) |
| N/T-cell acute rejection (N = 19) | 11 (57.9) |
| Immunosuppressive regimen w/ | 8 (38.1) |
| Cyclosporine (N = 21) |                |
| Donor characteristics, N = 28 |                |
| Deceased        | 24 (83.7)      |
| Living          | 2 (7)          |
| Not specified   | 2 (7)          |
| Donor risk factor for TB³ |            |
| Latent or active TB | 9             |
| Residence in endemic country | 13          |
| Socio-economic³ | 5              |
| None            | 5              |
| Type of TB      |                |
| Pulmonary       | 13 (36.1)      |
| Extrapulmonary  | 10 (27.8)      |
| Disseminated    | 13 (36.1)      |
| Proven          | 17             |
| Probable        | 8              |
| Possible        | 11             |
| Clinical presentation (N = 33) |            |
| Fever           | 20 (60.6)      |
| Other           | 16 (48.4)      |
| Time to diagnosis, med in months | 2.7 (0.2–29) |
| Diagnosis, N = 34⁴ |                |
| AFB smear or culture | 30             |
| Histopathology  | 8              |
| PCR             | 2              |
| Outcome         |                |
| Graft loss or failure (N = 22) | 4 (18)        |
| Death           | 9 (45)         |

³may have more than one. ⁴Homelessness, incarceration, alcohol abuse, and travel.

Pain (2), cough/dyspnea (3), Effusion (1), nephritis (1), nausea (1) no symptoms (5), NR, not reported.

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1537. Reactivation of Latent Cytomegalovirus Infection in Patients with Rheumatologic Disease: A Case–Control Study

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Session: 151. Viruses and Bacteria in Immunocompromised Patients

Background. While there are emerging reports of cytomegalovirus (CMV) disease in patients with underlying rheumatic conditions, the disease burden, risk factors and clinical sequelae in this population are poorly understood. We sought to describe a cohort of patients with underlying rheumatic disease and CMV infection, then compare those with systemic lupus erythematosus (SLE), the largest subgroup, using case–control methodology to identify risk factors for reactivation and differences in outcomes.

Methods. Adults with rheumatic disease and CMV reactivation diagnosed by viral load, viral culture or histopathology from Tufts Medical Center between 2000 and 2015 were identified. Due to SLE cases comprising 43% of the total, these patients were matched 3:1 with SLE controls based on age, sex and year of admission.

Results. Eighteen patients with rheumatologic disease and CMV were included (six SLE, four rheumatoid arthritis, two sarcoid, one psoriatic arthritis, one microscopic polyangiitis). Seven patients had viremia alone and the remainder had tissue-invasive disease (four gastrointestinal, three pulmonary). Thirteen (93%) received corticosteroids within 3 months prior to CMV reactivation. Fever (86%) was the most common symptom. Coinfections were seen in eight (57%), including four with bacteremia. Thirteen (93%) were treated with antiviral therapy for a median of 33 days (range 13–171). Relapse occurred in three patients and four died during hospitalization. Six patients with underlying SLE and CMV reactivation were compared with 18 controls. Cases received significantly more corticosteroids during the 8-week period prior to admission (median 36.5 vs. 2.5 mg/day, P = 0.006), had longer hospitalizations (median 46.5 vs. 6.5 days, P = 0.006) and more frequent co-infections (67% vs. 17%, P = 0.04). There were no significant differences in symptoms at presentation.

Conclusion. CMV reactivation occurs in patients with rheumatic disease, and can result in severe clinical sequelae that may be difficult to distinguish from a flare of the underlying disease. Patients with CMV were more likely to have received high doses of corticosteroids, and developed more co-infections during their hospitalization. Clinicians should consider this diagnosis during the evaluation of a febrile illness in the rheumatologic population.

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1538. High Mortality of Cytomegalovirus (CMV) Pneumonia in Hematopoietic Cell Transplant Recipients

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Session: 151. Viruses and Bacteria in Immunocompromised Patients

Background. CMV infection remains a leading cause of morbidity and mortality in allogeneic hematopoietic cell transplant (allo-HCT) recipients. CMV can cause tissue-invasive disease, especially pneumonitis, with poor outcomes.

Methods. We performed a retrospective study in HCT recipients who had CMV pneumonia between January 2014 and December 2017. The microbiology laboratory records were queried to identify patients with CMV pneumonia based on CMV viral culture and CMV viral load (VL) in plasma and in bronchoalveolar lavage (BAL). Data on demographics, clinical characteristics, management and mortality were collected.

Results. A total of 23 patients were diagnosed with CMV pneumonia and nine (39%) were fatal, with a median age of 59 years (range 18–83), and median time from HCT to CMV pneumonia of 104 days (range 25–1,177). Most patients had an allo-HCT (20, 87%) and three (13%) had an autologous HCT. All patients except one were CMV seropositive, 13 (57%) were on steroids and eight (42%) had GVHD. The median plasma CMV VL at diagnosis was 137 UI/mL (range: 0–6,386) while the median VL in BAL was 1,700 UI/mL (range 79–64,800) (Figure 1). Foscarnet was the most common antiviral agent used (12, 52%) followed by ganciclovir (7, 30.4%). Seventeen (81%) patients received combination therapy with IVIGs with a mean number of doses of 4 (range, 1–7). All-cause mortality was 87% and CMV-associated mortality was 52%. The median time to CMV-associated mortality was higher (12,340 vs. 2,863 UI/mL, P = 0.059) than the remaining cohort.

Conclusion. CMV pneumonia remains a significant cause of mortality after HCT. The correlation between CMV VL in BAL and plasma was poor. High CMV VL in BAL was associated with fatal outcome.