

abnormal in 64% of all infants with leukopenia the most common abnormality. Of those with bacterial infection and where CBC was obtained, 50% had leukopenia and 50% had normal white blood cell (WBC) count. UA collection differed between the groups from 88%, 87% and 68% and lumbar puncture attempts performed in 84%, 30% and 4%. CXR was obtained in 27% of infants and all were negative; 40% of these infants that underwent imaging were asymptomatic.

**Conclusion.** Most criteria rely on leukocytosis to identify high risk for IBI; infants with IBI in this study had leukopenia or normal WBC counts. Sepsis evaluation in febrile infants varies tremendously and an updated guideline for identifying IBI could minimize unnecessary imaging, laboratory testing and unwarranted antibiotic therapy.

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

**2317. Outcomes of Children Treated with Short vs. Long Course Parenteral Antibiotic for Acute Hematogenous Osteoarticular Infections**

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**Session:** 251. Pediatric Potpourri  
Saturday, October 7, 2017: 12:30 PM

**Background.** In pediatric osteoarticular infections (OAI), antibiotics are given intravenously (IV) until clinical improvement, then completed with oral antibiotics. Adverse events (AE) associated with therapy and specific markers to guide transition are not well studied. We sought to determine the impact on OAI outcome with early transition to oral antibiotic therapy guided by clinical response and use of C-reactive protein (CRP) levels.

**Methods.** Clinical course and AE were reviewed in a retrospective analysis from 2010 to 2015 at our hospital. CRP level prior to transition to oral antibiotics was analyzed at 3 different levels: <3 mg/dL, <5 mg/dL, and 50% decrease from the peak. Development of long-term sequelae (limp, limb deformities or chronic infection) and re-hospitalization was assessed.

**Results.** 1004 cases of OAI were confirmed. Subacute presentations or chronic conditions were excluded. 352 cases were identified; median age 7.5 years (IQR 2.5–11.0); 65% male. 266 patients received <7 days of IV antibiotics vs. 86 that received >7 days. Clinical features are seen in Table 1. 337 patients were discharged with oral therapy. CRP analyses are shown in Figure 1. Transition to oral antibiotics with a CRP <5 mg/dL was associated with a significant decrease in the odds of developing long-term sequelae. No decrease was seen with CRP <3 mg/dL or a CRP decrease by 50%.

**Conclusion.** Children with uncomplicated OAI who received short-course IV prior to oral transition developed adverse outcomes infrequently. A CRP of <5 mg/dL may be a safe set-point to transition to oral antibiotics. Larger, prospective studies are needed to evaluate the impact of transition to oral antibiotics on the development of sequelae.

Table 1: Clinical characteristics of patients in each cohort

Characteristic	Length of antibiotic therapy		P-value
	<7 Days (n = 266)	>7 Days (n = 85)	
Length of therapy, days (median, IQR)	3.0 (2.5–4.5)	10.0 (8.0–13.0)	–
Developed adverse outcomes (n, %)	23 (9%)	20 (24%)	–
Days of symptoms prior to starting antibiotics	4.0 (2–6.7)	4.0 (2–7)	.38
ESR at admission, mm/hours	36 (22–58)	45 (36–74)	<.01
CRP at admission, mg/dL	5.1 (2.7–8.7)	11.7 (6.4–25.1)	<.01
Number of surgeries (μ ± σ)	0.9 ± 0.8	1.9 ± 1.7	<.01
Number needing intensive care (n, %)	5 (2%)	17 (20%)	<.01

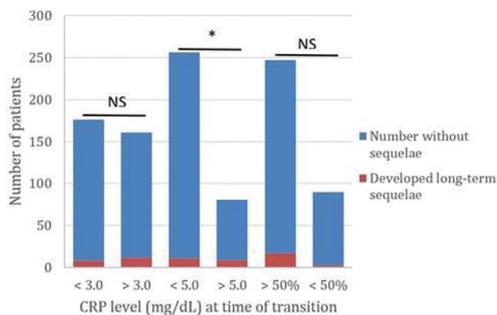


Figure 1: CRP levels and development of long-term sequelae of infection (\*= P value <0.05)

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**2318. Nutritional Status is Not Associated with Diarrhea Duration or Weight Recovery in Young Children in a Resource-Poor Setting**

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**Session:** 251. Pediatric Potpourri  
Saturday, October 7, 2017: 12:30 PM

**Background.** Young children in low and middle income countries suffer from frequent diarrheal illnesses that contribute to acute and chronic malnutrition. It is unclear whether malnourished children recover more slowly from diarrheal illness, due to weakened immunity or a compromised intestinal brush border. Thus, we explored associations between chronic and acute malnutrition, diarrhea duration and weight recovery in young Guatemalan children.

**Methods.** From March 2015 to January 2016, 301 children age 6–35 months from rural (N = 166) and urban (N = 135) Guatemala who sought clinical care for acute non-severe non-bloody diarrhea were followed prospectively for diarrhea resolution as part of a clinical trial. Severely malnourished children (WHO weight-for-height z-scores (WFLZ) <-3) were excluded. Height, weight, treatments prescribed, and stool tests of 22 diarrheal pathogens were collected at enrollment. Height and weight were also collected 2 and 4 weeks after rehydration. Cox proportional hazards regression was used to model the effect of WHO height-for-age z-scores (HAZ, chronic malnutrition proxy) and WFLZ (acute malnutrition proxy) on diarrhea duration and weight recovery. Analyses were adjusted for age, treatment prescribed, number of pathogens, and presence of parasites; and stratified by urban vs rural due to demographic and treatment differences.

**Results.** In the rural site, 33% of children had a HAZ below -2, and 22% had a WFLZ between -2 and -3. In separate survival analyses, neither low HAZ (Hazard Ratio (HR): 1.08, 95% Confidence Interval (CI): 0.76–1.54) nor low WFLZ (HR: 1.07, CI: 0.72–1.61) were associated with diarrhea duration. In the urban site, 33% of children had a HAZ below -2, and 10% had a WFLZ between -2 and -3. Again, neither low HAZ (HR: 1.21, CI: 0.68–2.17) nor low WFLZ (HR: 1.43, CI: 0.74–2.79) were associated with diarrhea duration. Neither low HAZ nor low WFLZ were associated with weight recovery at 2 or 4 weeks in either site.

**Conclusion.** In children with a single episode of infectious diarrhea, moderate malnutrition does not affect diarrhea duration or short-term weight recovery. Measures to prevent recurrent infection in such children may be more important to long-term nutritional status than more aggressive acute diarrheal treatment.

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**2319. Bandemia in Children Without a Bacterial Infection**

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**Session:** 251. Pediatric Potpourri  
Saturday, October 7, 2017: 12:30 PM

**Background.** Elevated immature neutrophil percentage (> 5–10%) or bandemia is used by some clinicians as a sign of serious bacterial infection. In 1991, the Society of Critical Care Management recommended bandemia of greater than 10% should be the criteria for systemic inflammatory response syndrome. Clinicians, since then, have used bands > 10% as an indication of bacterial illness and will often start antibiotics. However, bands can also be elevated in viral infections. We sought to compare the mean band percentage in children with confirmed viral infections to those with bacterial infections.

**Methods.** A retrospective chart review was conducted on children between the ages of ≥ 1 month and ≤ 5 years seen at Winthrop University Hospital's emergency department from January 1, 2016 through January 1, 2017.

We reviewed complete blood counts (CBC) in two groups: Group 1: Febrile children with confirmed viral infection (Diagnosis by FilmArray [multiplex PCR]); Group 2: Febrile children with confirmed bacterial infection (bacteremia, urinary tract infection, meningitis, enteritis). The study was approved by Winthrop IRB.

**Results.** Table 1: Viral vs. bacterial

	Viral	Bacterial	Total	P-value
Age (Months)	456 16.8 (7.4–31.2)	42 7.1 (4.0–26.7)	498 (6.3–31.0)	0.004
Duration of Fever (Days)	2.0 (1.0–4.0)	1.0 (1.0–3.0)	2.0 (1.0–4.0)	0.061
ANC	4604 (2844–7834)	8638 (4950–11700)	4740 (2916–8083)	< 0.001
WBC Absolute (1000K/uL)	11.6 ± 5.7	16.8 ± 7.5	12.1 ± 6.0	< 0.001
Band Proportion	3.8 ± 4.7	3.8 ± 4.8	3.8 ± 4.7	0.983
Neutrophil Proportion	45.6 ± 19.6	48.5 ± 18.4	45.9 ± 19.5	0.367
Lymphocyte Proportion	39.7 ± 18.6	36.9 ± 16.2	39.5 ± 18.4	0.334
Antibiotics Given (N, %)	155 (34.0%)	39 (92.9%)	194 (39.0%)	< 0.001
Admission to Hospital (N, %)	211 (46.3%)	26 (61.9%)	237 (47.6%)	0.055

Table 2: Bandedemia in Viral Infection

	Bands < 5%	Bands ≥ 5%	Total	P-value
Antibiotics Given (N, %)	92 (28.7%)	63 (46.7%)	155 (34.0%)	< 0.001
Admission to Hospital (N, %)	136 (42.4%)	75 (55.6%)	211 (46.3%)	0.010

**Conclusion.** A) We did not find any difference in band proportion between the viral and the bacterial group. B) Children with confirmed viral infection and band proportion > 5% were more likely to get antibiotic and hospital admission.

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**2320. 2016 Acute Flaccid Myelitis Outbreak in Texas: Promising Outcomes**

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**Session:** 252. Pediatric Virology  
**Saturday, October 7, 2017: 12:30 PM**

**Background.** In 2014, the United States saw an unprecedented rise in cases of acute flaccid myelitis (AFM). Causes and treatment of AFM are unknown, though it has been linked to enterovirus D68 (EV-D68). Poor outcomes were observed in 2014, with only 5% showing complete recovery of symptoms.

During the year 2016, a new outbreak of AFM occurred that surpassed that of 2014. In this outbreak we saw a larger portion of cases in Texas and the disease did not coincide temporally with an EV-D68 outbreak as it did in 2014.

We reviewed cases of AFM in Central Texas during 2016 to describe presentation, possible causes, treatments, and outcomes.

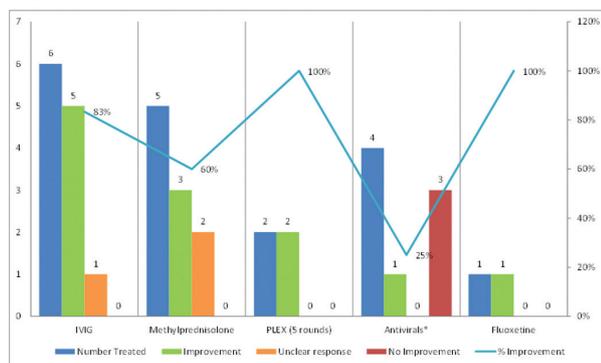
**Methods.** Cases of AFM, defined as sudden onset limb weakness and abnormal spinal magnetic resonance imaging involving gray matter, were manually reviewed May 2016-April 2017. Information included extensive review of presentation, imaging, laboratory values, treatment and response, and neurology follow up and outcomes.

**Results.** AFM was identified in 7 cases. Median age was 4.4 years. Cervical spinal involvement and cerebrospinal fluid pleocytosis (>5 white blood cells/mm<sup>3</sup>) were present in all cases. Fever and respiratory illness were the most common prodromal symptoms (71% each). Medical treatments varied; use and response are represented in Figure 1. All children received physical/occupational therapy.

A possible etiology was found in 4 cases; one with EV-D68. The remaining 3 cases tested positive for enterovirus A71 and human parechovirus (HPeV), HPeV alone, and human herpesvirus-6 (HHV-6). Three of the 7 cases regained full function at 9-30 weeks after onset of illness, including the cases diagnosed with HHV-6 and HPeV only; the remaining 4 all showed improvement with residual functional impairment at 4.5-9 months. Neither case with concomitant enterovirus has recovered fully; the case with EV-D68 suffered the most severe disease.

**Conclusion.** AFM continues to be a complex, poorly understood disease. Although there are no treatment standards, our data show promising symptom improvement. One case (14%) was diagnosed with EV-D68 compared with 22% of cases tested in the U.S. in 2014.

Figure 1. Treatments and Symptom Response in 7 Cases with AFM



In figure: Improvement noted by neurology, neuro-rehab, or consistent progress notes. "Unclear" refers to cases where reports from parents, hospitalists, and specialists are variable.

\*Ganciclovir was used and successful in one case with HHV-6. The remaining cases with antivirals received acyclovir.

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**2321. Rapid Virologic Response to Brincidofovir in Pediatric, CD34<sup>+</sup> Selected Allogeneic Hematopoietic Stem Cell Transplant (HCT) Recipients with Disseminated Adenovirus Infection**

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**Session:** 252. Pediatric Virology  
**Saturday, October 7, 2017: 12:30 PM**

**Background.** Disseminated adenovirus infections (dADV) are associated with high mortality in hematopoietic cell transplant (HCT) recipients. Currently there is no approved therapy for ADV. Cidofovir is commonly used with variable efficacy and associated nephrotoxicity. Brincidofovir and adoptive transfer of ADV-specific T-lymphocytes (ADV-CTLs) are currently in development for ADV. We report four pediatric HCT recipients with dADV treated successfully with brincidofovir.

**Methods.** Retrospective review of pediatric HCT recipients who received >1 dose of brincidofovir under EIND for dADV from September 2015 and May 2016. ADV PCR was performed by Viracor-Eurofins. dADV was defined as ADV detection at ≥2 sites with symptoms. Virologic clearance was defined as 2 consecutive negative blood ADV PCR ≥2 weeks.

**Results.** Four patients are included. The median age was 3 years (range, 1.6 - 4). All patients received CD34<sup>+</sup> selected (T-cell depleted) HCT. dADV was diagnosed at a median of 147.5 days (range, 65 - 870) post-HCT. Three had ADV colitis and one had ADV hepatitis and pneumonitis. Three received CDV prior to brincidofovir. The median ADV viral load at brincidofovir initiation was 4.4 log<sub>10</sub> copies/mL (range, 3.3 - 6.4). The median absolute lymphocyte count was 350 (range, 100-400) and the median CD4<sup>+</sup> at brincidofovir initiation were 9.5 (range, 0-30). Two were on systemic immune suppression including steroids at the time of treatment. Brincidofovir 2mg/kg twice per week was given for a median 21.5 doses (range, 4-46). One discontinued brincidofovir after 4 doses due to gastrointestinal symptoms and responded to donor lymphocyte infusion and ADV-CTLs. Three achieved virologic clearance a median of 14 days from brincidofovir (range, 3-34). One had recurrence of ADV viremia 31 days after clearance (7 days after stopping brincidofovir) and was retreated successfully with brincidofovir. Virologic responses are shown on Figure 1.

**Conclusion.** Three (75%) pediatric recipients of CD34<sup>+</sup> HCT with dADV had rapid and sustained virologic response to brincidofovir despite persistent lymphopenia. One discontinued brincidofovir early due to gastrointestinal symptoms. Further development of brincidofovir is warranted for treatment of ADV in pediatric HCT recipients.

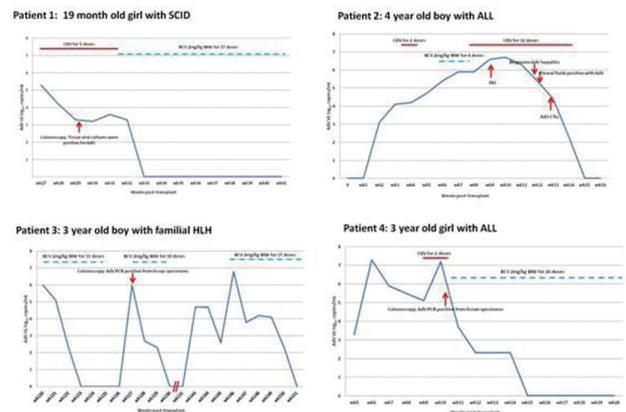


Figure 1. Plasma adenovirus viral load and treatment in 4 pediatric hematopoietic cell transplant recipients with disseminated adenovirus infection.

Abbreviation: ALL, acute lymphoblastic leukemia; HLH, familial hemophagocytic lymphohistiocytosis; SCID, severe combined immunodeficiency

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