rate of recurrent cellulitis in the prophylactic period was 0.31 episode/patient-year, signifi-
cantly lower than that of 0.77 episodes/patient-year in the non-prophylactic period (P = 0.004). The common underlying diseases of enrolled patients included diabetes mellitus (73, 35.4%), tinea pedis (69, 33.5%), impaired venous drainage (20, 9.7%), joint replacement of lower extremity (13, 6.3%) and edema status including congestive heart failure (19, 9.2%), chronic renal failure (15, 7.3%), and cirrhosis (8, 3.9%). In multivariate analysis of Poisson regression model, penicillin prophylaxis was asso-
ciated with lower recurrence (relative risk (RR), 0.30; 95% confidence interval (CI), 0.13–0.69, P = 0.005), in contrast, impaired venous drainage (RR 2.78; CI, 1.20–6.48, P = 0.018) and times pedis (RR 3.04; CI, 1.17–7.90, P = 0.022) were associated with higher risk of recurrence.

Conclusion. The study was the largest cohort that demonstrated intramuscular injection of 2.4 million units benzathine penicillin with 4-week interval significantly reduced the incidence of recurrent cellulitis.

Disclosures. All authors: No reported disclosures.

267. Identification of Pathogens Directly From Diabetic Foot Infections by Shotgun Metagenomic Sequencing

James Shurko, PharmD1,2; Steven Dallas, PhD3; Bryson M. Dubon, PharmD3,4
Jordan Meckel, PharmD Candidate5; Chou-Min Wang, PhD3; Chun-Lin Lin, PhD3; Nicholas Lacz, B.S.6; Nameer Kirma, PhD7 and Grace C. Lee, PharmD, PhD8; 1The University of Texas Health Science Center San Antonio, San Antonio, Texas, 2The University of Texas at Austin, Austin, Texas

Session: 47. Clinical: Skin and Soft Tissue
Thursday, October 5, 2017: 12:30 PM

Background. Diabetic foot infections (DFIs) constitute the most common cause for diabetes-related hospitalization and lower extremity amputations. Current diagnostic methods are slow and in some cases do not detect all potential pathogens. Metagenomics sequencing has the potential to merge rapidity and comprehensive information about causative pathogens in DFIs. The aim of this study was to evaluate the potential of metagenomics strategies for DFIs.

Methods. Thirty tissue specimens from patients with neuropathic plantar DFIs were analyzed. Specimens were processed using the Moxlym Mysis five basic kit to deplete human cells. Microbial DNA was extracted using the Qiagen DNeasy PowerSoil kit. Microbial 16s rRNA was conducted on the Illumina MiSeq instrument. Shotgun metagenomics was conducted using nanopore sequencing for seven samples. Libraries were prepared using the rapid low input PCR library preparation kit (SQK-RIL001) and sequenced on a MinION using R9.4 (FLO-MIN 106) flow cells. Real-time identification of pathogens and antimicrobial resistance determinants (ARDs) were conducted using EPIDdEIE's WdMP and ARMA applications, respectively.

Results. Overall, the cohort characteristics included: 60% male, mean age 49 years, mean HgA1c 10.2%, and median PEDIS score 3. 16s sequencing identified reads belonging to bacteria isolated by culture, but also identified additional anaerobic pathogens in 70% of the specimens. Nanopore sequencing generated an average of 16.4 Mbp and an average read length of 1620-2700 bp. Shotgun metagenomics correctly detected the pathogens found in culture and in 16s RNA sequencing: the time to accurate classification thresholds was completed in <1 hour. In two samples, several pathogens including anaerobes and fungi were identified that were not isolated by standard culture methods. The resistome included a range of 8–32 ARDs per sample. Furthermore, the resistomes were highly predictive (sensitivity 98% and specificity 88%) for antimicrobial resistance phenotypes detected by standard susceptibility testing.

Conclusion. Metagenomics-based sequencing has the potential to offer a rapid (<6 hours sample to result time) and accurate strategy for detecting and identifying pathogens and ARDs involved in DFIs.

Disclosures. All authors: No reported disclosures.

268. Seasonal and Environmental Variation of Lower Extremity Cellulitis Incidence Among Emergency Department Patients in Three Geographic Locations

Aaron Locations1, Larry M. Baddour, MD, FIDSA3; Jasmine R. Marcelin, MD3; Chun-Lin Lin, PhD3; Nicholas Lacz, B.S.6; Nameer Kirma, PhD7 and Grace C. Lee, PharmD, PhD8; 1The University of Texas Health Science Center San Antonio, San Antonio, Texas, 2The University of Texas at Austin, Austin, Texas

Session: 47. Clinical: Skin and Soft Tissue
Thursday, October 5, 2017: 12:30 PM

Background. Recent investigation has suggested a higher incidence of lower extremity cellulitis (LEC) during the summer, but it is not clear if this phenomenon is limited only to certain climates or locations. We sought to investigate this phenomenon and further elucidate the relationship with environmental climate factors in three different geographic locations.

Methods. This was a retrospective study of all patients with at least 1 ICD-9 code recorded during an emergency department (ED) visit at Mayo Clinic in Scottsdale, AZ; Jacksonville, FL; and Rochester, MN; between January 1, 2009 and December 12, 2014. Demographics were defined using ICD-9 data. Temperature data was obtained from the National Climatic Data Center. The climates of each location were classified according to the Köppen Climate Classification System as hot desert (AZ), humid subtropical (FL) or humid continental (MN) climate types. The primary outcome was LEC (ICD-9 code 682.7) expressed as a proportion of 1000 ED visits (LEC visits/1,000 EDV), to account for seasonal variation in ED use. Univariate and multivariate regression were performed for analysis.

Results. There were 627,292 ED visits among 288,349 patients during the study period. The incidence of LEC visits/1,000 EDV was significantly different across sites (9.36 in FL, 7.95 in AZ, and 7.39 in MN, P < 0.0001 for any difference). In the humid cli-

me types (FL and MN), the peak incidences of LEC occurred in the warmest month; July in FL (11.77 LEC visits/1,000 EDV) and August in MN (9.69 LEC visits/1000 EDV). In AZ, the peak incidence occurred in November, the fourth coolest month (9.44 LEC visits/1000 EDV) (Figure 1). There was a significant positive correlation between the high daily temperature and the incidence of LEC cellullit in all three sites (Figure 2). After controlling for total daily ED visits, gender, and age, the high temperature for the day was significantly associated with occurrence of LEC cellulitis at each site (P < 0.0001).

Conclusion. The incidence of LEC presenting to the ED is associated with environ-
mental temperature across different geographic locations and climate types, but light variations in seasonality of infection was observed. Investigation to determine whether other environmental factors, in particular, humidity, are associated with the incidence of LEC is ongoing.

Disclosures. All authors: No reported disclosures.

269. Diabetic Foot Wounds: Which Patients are More Prone to Tetanus?

Ferit Kuscu, MD1; Behice Kurtaran, Associated Professor2; Aslihan Ulu, Assistant professor3; Mehtap Evran, Assistant Professor4; Seza Inal, Assistant Professor2; Suyelya Komur, Assistant Professor2; Salih Coskun, Assistant Professor2; Yeşim Tazova, Professor2 and Hasim Sahin Zeki Akus, Professor2; 1Cukurova University, Infectious Diseases, Turkey, Adana, Turkey, 2Cukurova University, Adana, Turkey, Infectious Diseases, Cukurova University, Adana, Turkey, 3cukurova University, Adana, Turkey

Session: 47. Clinical: Skin and Soft Tissue
Thursday, October 5, 2017: 12:30 PM

Background. Patients who have diabetes and chronic wounds are more prone to tetanus than the other populations. The prevalence of diabetes among patients diag-
nosed with tetanus was 15%, nearly three times the average expected prevalence of dia-
betes in the United States. In this study, we aimed to evaluate the tetanus immunization status of the patients with diabetic foot wounds (DFW) and to determine the factors, which may predict to immunity against tetanus.

Methods. Patients who admitted to outpatient clinics with DFW were included between 1 January and 31 December 2016. Tetanus antibody levels were measured by a commercial Clastidiun tetani 55 IgG ELISA kit. Antibody levels below 0.1 IU/ml were defined as "No reliable protection" and levels above 0.1 IU/ml were defined as "Reliable protection". A questionnaire applied to all patients for detailed diabetes and vacinating history about tetanus.

Results. Ninety-one patients were enrolled to the study, 66 (72.5%) of them were male and 25 (%27.5) of them were female. Mean age was 62 ± 11 years. Sixty-five (71.4%) of the patients had no reliable protection while 26 (28.6%) of them had reliable protection. Tetanus IgG titers were decreasing by the age (Figure). Univariate analysis
results between the immune and non-immune groups were demonstrated in Table.
In the logistic regression analysis, only patients’ age was found statistically significant
predictive factor for immunity against tetanus (OR: 1.114 95% CI: 1.047–1.185).

Conclusion. We found that elderly patients with DFW have very low rate of
immunization against tetanus. Therefore, tetanus vaccination should be given particu-
larly to the elderly patients with DFW without any serological control.

Disclosures. All authors: No reported disclosures.

271. Development of a Clinically Relevant Murine Model of Fungal (Aspergillus)
Endophthalmitis
Neha Gupta, BS1; Pawan Kumar Singh, PhD2; Sanjay G. Revankar, MD3; Pranatharthi
H. Chandrasekar, MD3 and Ashok Kumar, PhD1,4; Wayne State University, Detroit,
Michigan, 1Department of Ophthalmology, Kresge Eye Institute, Wayne State
University School of Medicine, Detroit, Michigan, 2Division of Infectious Disease,
Department of Internal Medicine, Wayne State University School of Medicine,
Detroit, Michigan, 3Department of Anatomy and Cell Biology, Wayne State University
School of Medicine, Detroit, Michigan, 4Department of Microbiology, Immunology,
and Biochemistry, Wayne State University School of Medicine, Detroit, Michigan

Session: 48. Fungus Among Us: Basic Science
Thursday, October 5, 2017: 12:30 PM

Background. Aspergillus fumigatus (AF) is the leading cause of exogenous
endophthalmitis following traumatic injury to the eye, especially in tropical regions
of the world. Delays in the identification and treatment of fungal endophthalmitis can
result in significant vision loss. The aim of this study is to develop a mouse model of
AF endophthalmitis and investigate the pathophysiology.

Methods. Endophthalmitis was induced in wild-type, C57BL/6, mice by intravit-
real injections of varying doses of A. fumigatus spores. Disease progression was moni-
tored by assessing corneal and vitreal haze and opacity, the fungal burden, and retinal
tissue damage. Eye examination was performed using the slit-lamp and retinal fundus
imaging at the desired time points post fungal infection. Fungal burden (CFU/eye) was
determined from the whole-eye lysates using a standard plate count method. qRT PCR
and ELISA were used to assess the level of inflammatory cytokines/chemokines. Flow
cytometry and Immunostaining were used to assess PMN infiltration. Histological
analysis was used to assess retinal tissue damage.

Results. In immunocompetent B6 mice, AF caused reproducible endophthal-
mits only at the higher dose, i.e., ~10,000 spores/eye. Time-course study revealed
increased corneal haze and opacity within 2 days post infection (dpi). The fungal
burden in infected eyes peaked significantly (P < 0.5) at 2 dpi and declined thereafter
up to 9 days. AF-infected eyes exhibited increased PMN infiltration as well as elevated
levels of inflammatory mediators (TNFa, IL-1β, and IL6); both at mRNA as well as protein
levels. Histological analysis revealed heavy cellular infiltrates in vitreous cavity as well
as disruption of normal retinal architecture/histology, increased cell death (TUNEL
positivity) as compared with uninfected control eyes. AF-infected neuroretina exhib-
ted upregulation of pathogen recognizing receptors such as Toll-like receptors (TLRs).

Conclusion. Here, we describe the first immunocompetent murine model of
Aspergillus endophthalmitis. This model can be utilized to study the pathogenesis of
exogenous fungal endophthalmitis and to potentially evaluate the therapeutic efficacy
of existing and newer antifungal agents in the eye.

Disclosures. All authors: No reported disclosures.

272. De novo STAT3 Mutation in a Patient with Fatal, Treatment-Refractory Sino-
orbital Aspergillosis
Mukil Natarajan, MD3; Amy Hsu, BA1; Michael Weinreich, MD, PhD; Janey Sugui,
PhD2; Tirdad Zangeneh, DO1; Tara Carr, MD1; Andrew Oler, PhD3; Morgan Simulak,
ScM3; Kyung Kwon-Chung, PhD2; Joshua Milner, MD3; and Michail S Lionakis,
MD, ScD1; Fungal Pathogenesis Unit, Laboratory of Clinical Infectious Diseases,
National Institute of Allergy and Infectious Diseases (NIAID), Bethesda, Maryland,
1National Institute of Allergy and Infectious Diseases (NIAID), Bethesda, Maryland,
2Department of Medicine, Division of Infectious Diseases, University of Arizona
College of Medicine, Tucson, Arizona, 3College of Medicine, University of Arizona,
Tucson, Arizona

Session: 48. Fungus Among Us: Basic Science
Thursday, October 5, 2017: 12:30 PM

Background. Aspergillus fumigatus (AF) infection is a leading cause of sino-orbital
aspergillosis. AF endophthalmitis is a locally invasive sino-orbital infection with progressive
cavernous sinus involvement of STAT3 phosphorylation (pSTAT3) was performed by flow cytometry on peripheral
blood mononuclear cells after IL-6 stimulation.

Results. A 37-year-old male with a history of eosinophilic esophagitis developed a
locally invasive sino-orbital infection with progressive cavernous sinus involvement
associated with facial numbness, diplopia, and visual loss. Biopsy showed chronic
inflammation and invasive fungal hyphae. Cultures grew an isolate of Aspergillus fum-
gatus, which was identified by morphology and the sequences of β-tubulin and
Mem7. MICs (in µg/ml) for the isolate were: mcflucatign <0.015; amphotericin B,