and valacyclovir. However, he continued to have fevers and myalgias. Wound culture was negative for fungus after four weeks of growth. Skin biopsy immunostains were consistent with an unknown protozoan. Specimens were sent to an outside facility and yielded a diagnosis of *Anncaliia algerae*. Antibiotics were changed to albendazole and voriconazole, with subsequent improvement in all symptoms.

**Conclusion.** Microsporidia most commonly infect immunocompromised hosts. Clinical manifestations of microsporidiosis are extremely diverse. Oftentimes, symptoms are not present in those found to be infected with Microsporidia. A disseminated disease has been identified but remains rare. Although Microsporidia have been identified as a cause of infection in immunocompromised patients, there are few reports of infection in those diagnosed with cancer, and only a few cases have been due to *Anncaliia algerae*. In studies pertaining to ALL patients, roughly one-fifth of patients were identified as being infected with Microsporidia, but most did not have symptoms. This is the first reported case of disseminated Microsporidia in a patient with ALL and the first disseminated infection presenting as a skin manifestation. Of identified cases of disseminated Microsporidial infection, mortality was high. Thus, prompt recognition of Microsporidia as a cause of infection in patients with ALL is of utmost importance.

**446. Epidemiology of Necrotizing Fasciitis in Korea: A Nationwide Study Using Claims Data**

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**Session:** 51. Soft Tissue and Skin Infections

**Background.** Necrotizing fasciitis (NF) is a rare but fatal infectious disease that causes economic burdens on patient and the healthcare system. We investigated the incidence of necrotizing fasciitis (NF) and the seasonal variation of necrotizing fasciitis in Korea.

**Methods.** We analyzed a nationwide claims database from the Korean Health Insurance Review and Assessment Service from 2011 to 2017. For case definition, we used two different methods. First, patients who hospitalized with NF diagnosis code and received surgical intervention (NF code method) were defined as NF. Second, patients hospitalized with sepsis codes accompanying surgical intervention codes were defined as NF (sepsis code method). The annual incidence rate per 100,000 population of NF was calculated using the number of identified NF cases as numerator and age- and sex-specific midyear population as the denominator. Poisson regression models were used to assess the relationship of crude incidence rates to year, age, and sex. A multivariate Poisson regression model was used to investigate variations in trends in the monthly NF cases.

**Results.** The overall average annual incidence rate of NF during 2012–2017 was 0.86/100,000 by NF code method and 1.47/100,000 by the sepsis code method. The incidence of NF increased with age and 2.5 times higher in males across all age groups. Two-thirds of episodes occurred in diabetes patients. The incidence of NF occurred the most during summer. A multivariate Poisson regression model using national meteorological variables suggested that higher mean temperature of and larger number of NF cases during a prior month increased NF cases.

**Conclusion.** The possibility of NF should be suspected for the cases for an elderly man with diabetes in summer. From a national management perspective, the prior information on the number of NF incidences and the mean temperature can help predict NF outbreak.

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

**447. Disease Progression in Patients with Acute Bacterial Skin and Skin Structure Infections: A Comparative Analysis Between Oritavancin and Vancomycin**

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**Session:** 51. Soft Tissue and Skin Infections

**Background.** Without the appropriate treatment, acute bacterial skin and skin structure infections (ABSSSI) have the potential to progress to more serious infections such as bacteremia and osteomyelitis. Utilizing single-dose oritavancin rather than vancomycin with step-down oral antibiotics, the need for compliance with outpatient antibiotics is eliminated. The objective of this study was to determine whether oritavancin use may reduce the sequelae from ABSSSI treatment failures, prevent skin infection recurrences, and subsequently improve patient outcomes.

**Methods.** Patients administered oritavancin or vancomycin for treatment of ABSSSI determined in this retrospective evaluation. The primary endpoint was to determine the 30-day ABSSSI progression rate to bacteremia, osteomyelitis, or endocarditis between treatment arms based on hospital readmissions. Study investigators determined that the source of each resultant infection was from the initial ABSSSI based on the presence of their prior skin infection and cultures, as well as history of present illness and reported patient compliance. In cases of osteomyelitis, infection location was also considered. The secondary endpoint was to determine the ABSSSI readmission rates between treatment arms. Data were analyzed by Fisher’s exact test, chi-square test or t-test as appropriate.

**Results.** A total of 99 patients receiving oritavancin and 100 patients receiving vancomycin with prescribed step-down oral antibiotics were identified as meeting inclusion criteria. Eighteen of 100 patients (18%) returned for recurrent ABSSSI infection in the vancomycin arm while 7 of 99 (7.16%) returned in the oritavancin arm (P = 0.0349). Of the 7 returning oritavancin patients, 1 (14.3%) had bacteremia as a result of persistent ABSSSI compared with 7 of 18 (38.9%) patients who previously received vancomycin returned with bacteremia, including 1 case of osteomyelitis (P = 0.0649).

**Conclusion.** Utilizing oritavancin for treatment of ABSSSI in this population resulted in improved patient outcomes, significantly fewer hospital readmissions for ABSSSI, and decreased infection sequelae from inadequately treated skin infections.

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

**448. Impact of Doxycycline Prophylaxis on Skin and Soft-Tissue Infection Incidence in Naval Special Warfare Trainers**

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**Session:** 51. Soft Tissue and Skin Infections

**Background.** Doxycycline is commonly used for chemoprophylaxis in military settings. During training events, soldiers were given oral doxycycline. We investigated the impact of doxycycline prophylaxis on skin infections in a population of military personnel.

**Methods.** We performed a retrospective review of naval special warfare trainees attending a 200-hour group training event from June 2016 to October 2017. The primary endpoint was to determine the incidence of skin and soft tissue infections (SSTIs) in trainees receiving doxycycline prophylaxis compared to those who did not receive prophylaxis. Intraindividual controls were used.

**Results.** The overall average annual incidence rate of SSTIs was 0.0309. Of the 7 returning oritavancin patients, 1 (14.3%) had bacteremia as a result of persistent ABSSSI compared with 7 of 18 (38.9%) patients who previously received vancomycin returned with bacteremia, including 1 case of osteomyelitis (P = 0.0649).

**Conclusion.** Doxycycline prophylaxis resulted in a significantly lower incidence of SSTIs compared to no prophylaxis (P = 0.0649). Effective chemoprophylaxis is a cost-effective means of reducing SSTI incidence in military training settings.

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