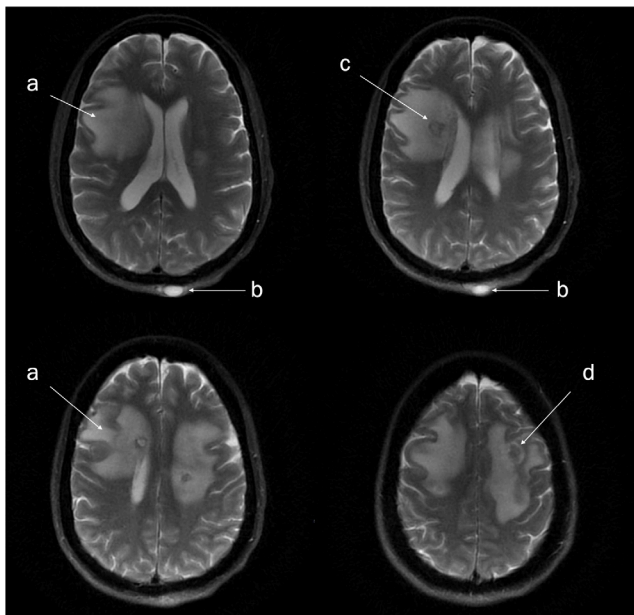


main categories: pulmonary nocardiosis, disseminated nocardiosis, and cutaneous nocardiosis.

Methods. We present a case of cerebral nocardiosis in an immunocompetent patient caused by *Nocardia beijingensis* (NB).

Results. A 60-year-old Caucasian lady from Florida with type 2 diabetes mellitus, hypertension, hyperlipidemia, presented to the emergency room with complaints of altered mentation. Per husband, she was having episodes of emesis and diarrhea 3 days prior to admission that resolved however, her mentation significantly deteriorated to where she was unable to perform simple chores around the house. Pertinently she had resection of lung mass 2 months prior to admission which found to be benign. Vital sign at admission was stable and on examination, the patient was alert and oriented, however, lethargic appearing. Neurological examination was pertinent for expressive aphasia; however, cranial nerves II-XII were grossly intact. The patient was also found to have a 3 cm by 4 cm, tender, cystic lesion on the left-sided occipital scalp. The remainder of the physical examination was unremarkable. Admission laboratories were remarkable for leukocytosis and hyperglycemia. MRI of the brain was completed that showed multiple areas of vasogenic edema and multiple nodules with the largest being 1.8 cm suggestive of abscesses. She was started empirically on vancomycin, ceftriaxone, metronidazole, and ampicillin. Cerebral spinal fluid showed neutrophilic pleocytosis, low glucose, and high protein. Initial cultures including CSF were negative. Left-sided occipital scalp lesion was excised and sent for pathology and culture. Initial cultures showed gram-positive bacilli, so antibiotics were de-escalated to sulfamethoxazole/trimethoprim and ceftriaxone. Repeat imaging showed improving abscess, and final cultures resulted in NB.

Conclusion. NB is believed to have originated in Southeast Asia. NB has been associated mainly with infections in immunocompromised. In the United States, the two only other cases of NB described in immunocompetent hosts were interestingly from Florida as well.



Disclosures. All authors: No reported disclosures.

1417. Detection of Human Herpesviruses DNA in Cerebrospinal Fluids of Patients Suspected with Central Nervous System Infection

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Background. Of the nine human herpesviruses (HHVs), most viruses have neurovirulence. Clinical manifestations of central nervous system (CNS) complications caused by some of the HHVs are well examined in children and immunocompromised adults; however, information of EBV and β -herpesviruses in an immunocompetent adult is limited.

Methods. Between April 2013 and March 2018, 322 patients (median age; 51.6 years old, male/female; 196/126) suspected to CNS infection were enrolled in this study. Patients with unconsciousness or characteristic change lasting more than 24 hours and abnormal brain MRI or EEG were defined as encephalitis. Real-time PCRs for detection of the 7 HHVs DNA including HSV-1, HSV-2, VZV, CMV, EBV,

HHV-6, and HHV-7 were carried out in DNA extracted from 200 μ L CSF. HHV-6 was discriminated between HHV-6A and HHV-6B using RFLP analysis.

Results. Herpesviruses DNA was detected in 33 (10.2%) of the 322 patients. The most frequently detected HHVs was VZV (19 cases) and followed by HHV-6B (4 cases), HSV-1 (3 cases), HSV-2 (3 cases), and EBV (2 cases). Multiple HHVs DNAs were detected from the 2 patients (case A; HSV-2, HHV-6, and EBV, case B; EBV and HHV-6B). No CMV and HHV-7 DNAs were detected in any of the samples. Eleven cases were assigned as encephalitis, and other 22 cases were non-encephalitis. Although all 3 patients with positive HSV-1 DNA were encephalitis, all 3 patients with positive HSV-2 DNA were meningitis. Fourteen (13 patients had zoster) of the 19 patients with positive VZV DNA were meningitis, and the remaining 5 patients (4 patients had zoster) were encephalitis. Two of the 4 HHV-6B-positive patients were non-encephalitis, one patient was diagnosed Orbital apex syndrome and another patient was myelitis. One of the 2 encephalitis patient was chromosomally integrated (ci) HHV-6. Additionally, case B was also ciHHV-6.

Conclusion. Approximately 10% of the samples were positive of HHVs DNA. VZV was the most frequently detected viral DNA in this cohort. Thirty-three percent of the patients were encephalitis, remaining patients were non-encephalitis such as meningitis and myelitis. As suggested, ciHHV-6 can cause miss-diagnosis of patients suspected with CNS infection.

Disclosures. All authors: No reported disclosures.

1418. Clinical Characteristics of Vertebral Osteomyelitis in Cancer Patients

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Background. Vertebral osteomyelitis (VOM) is an infection of vertebrae or intervertebral disc and associated with high mortality, decreased functional status, prolonged antibiotic use and recurrent infection. Although most of the patients with VOM often embody immunodeficiency or other comorbidities, characteristics of VOM in cancer patients remain to be fully elucidated. The aim of this study was to describe clinical profile, underlying disease, lesion site, pathogen, comorbidities, treatment, and outcome in patients with cancer.

Methods. This study was a retrospective observational study in a tertiary care cancer hospital with 801 beds. All patients with VOM were diagnosed by computed tomography or magnetic resonance imaging from July 2004 to March 2019. Culture-confirmed VOM was defined when causative pathogens were identified from the lesion site including vertebra, intervertebral disc, paravertebral or epidural abscess or when the result of blood culture was positive with compatible clinical symptoms. Data including patient characteristics, underlying diseases, lesion sites, type of infection, entry site of infection, results of bacterial culture, treatment, and outcome were collected by electronic medical records. We analyzed data of patients with culture-confirmed VOM between patients with cancer (C-VOM) and patients without cancer (NC-VOM). Death or re-treatment was the primary outcome. Statistical analysis was performed by STATA Version 15.

Results. Total number of patients diagnosed with VOM was 101, of which culture-confirmed VOM was 61 (C-VOM: 30 and NC-VOM: 31). Age, lesion sites, pathogen, or comorbidities were not significantly different between two groups (table). On the other hand, the rate of contiguous infection in C-VOM was significantly higher than NC-VOM (20.0 % vs. 0.0 %; $P = 0.01$). Univariate cox proportional hazard model revealed that cancer was risk of death or re-treatment (HR:3.14, 95% CI:1.07–9.24).

Conclusion. Poor prognosis and contiguous infection from adjacent infection sites should be concerned cancer patients with culture-confirmed VOM.

| | | C-VOM | NC-VOM |
|-------------------|--|------------|------------|
| Age | Median (range) | 76 (48-92) | 71 (36-87) |
| Male sex | | 66.7% | 38.7% |
| Lesion site | Cervical | 6.5% | 16.7% |
| | Thoracic | 22.6% | 10.0% |
| | Lumber | 64.5% | 73.3% |
| | Multiple site | 6.5% | 0.0% |
| Type of infection | Hematogenous | 87.1% | 63.3% |
| | Contiguous | 0.0% | 16.7% |
| | Surgery/Trauma | 6.5% | 6.7% |
| | Unknown | 6.5% | 13.3% |
| Primary entry | Catheter related blood stream infection | 13.3% | 3.2% |
| | Skin and soft tissue infection | 10.0% | 25.8% |
| | Urinary Tract Infection | 13.3% | 9.7% |
| | Pneumonia | 3.3% | 0.0% |
| | Cholangitis/Liver abscess | 3.3% | 3.2% |
| | Others | 26.7% | 19.4% |
| | Unknown | 38.7% | 30.0% |
| Pathogen | Methicillin-sensitive <i>Staphylococcus aureus</i> | 19.4% | 16.7% |
| | Methicillin-resistant <i>Staphylococcus aureus</i> | 6.5% | 13.3% |
| | Methicillin-sensitive Coagulase negative <i>Staphylococcus</i> | 6.5% | 3.3% |
| | Methicillin-resistant Coagulase negative <i>Staphylococcus</i> | 6.5% | 6.7% |
| | <i>Streptococcus</i> species | 25.8% | 33.3% |
| | <i>Enterococcus</i> species | 6.5% | 3.3% |
| | Gram negative bacteria | 22.6% | 26.7% |
| | Polymicrobial | 3.2% | 10.0% |
| | Others | 9.7% | 10.0% |