



Demographics of Patients with Central Nervous System Infections: A 10-year Multicenter-Based Population Descriptive Study

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Background

-Central nervous system (CNS) infections often include meningitis, encephalitis, cerebritis and brain abscess.

-CNS infections are associated with high-risk morbidity and mortality despite the advancement of imaging technologies and antimicrobial therapy for the past 30 years.

-We aimed to describe the demographics of patients with CNS infections at Mayo Clinic.

Study Description

-We retrospectively reviewed the electronic medical records of all adult patients (n=666) with the diagnosis of intracranial brain abscess (n=240), cerebritis (n=7), encephalitis (n=298), and ventriculopleural shunt infections (n=121) at our institution from January 1, 2009 through December 31, 2019.

-The diagnosis of CNS infection was defined by radiologic features compatible with the disease and associated with at least one of the following three characteristics: positive blood cultures, positive cultures of intracerebral materials, and histology of the intracerebral lesions.

-The definitions were ascertained from the ICD-9 and ICD-10-CM codes.

Take-Home Points:

1. CNS infections are associated with high-risk morbidity and mortality.
2. Clinicians must be aware of the demographic data as independent factors that can potentially identify complex patients with CNS infections.
3. Even though the Mayo Clinic in Minnesota receives patients from other cities and rural areas, the high prevalence of patients presenting from the Midwest it cannot be generalized for the whole U.S. population.



For full abstract – scan QR code

Results

Figure 1: Age distribution of patients with CNS infections

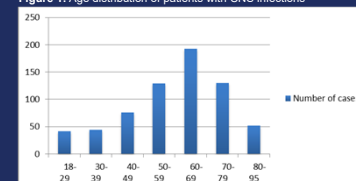


Figure 2: Gender distribution of patients with CNS infections

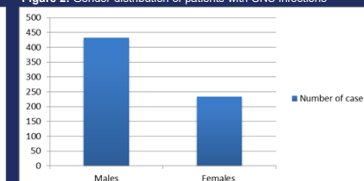


Figure 3: Racial distribution of patients with CNS infections

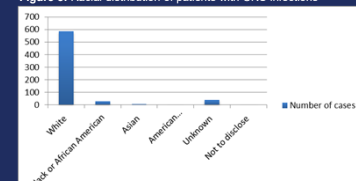


Figure 4: State of origin of patients with CNS infections

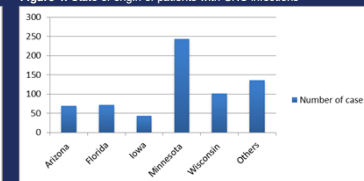


Figure 5: Comorbidities distribution of patients with CNS infections

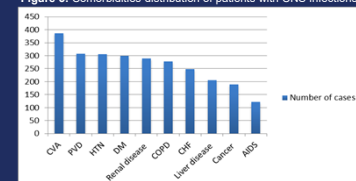
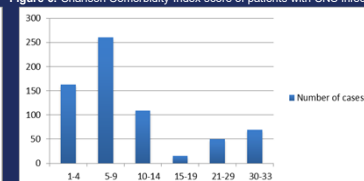


Figure 6: Charlson Comorbidity Index score of patients with CNS infections



Conclusions

Male, White Non-Hispanics, and elderly patients seem to be the most prevalent population at risk for CNS infections.