

Baizabal-Carvallo:

The diagnosis of septic meningitis was based on clinical criteria, and the presence of an inflammatory cerebrospinal fluid (CSF) obtained by lumbar puncture with the identification of a microorganism by cultures, stains, or the polymerase chain reaction (PCR) for *Mycobacterium tuberculosis*, which was performed in 15 episodes, because it had been available in our institution since 1998.

Aseptic meningitis is defined as: the presence of an acute or subacute onset of headache with photophobia, neck stiffness and/ or fever ($> 38.3^{\circ} \text{C}$), with signs of meningeal irritation (nuchal rigidity and Kernig's or Brudzinski's signs) and CSF pleocytosis ($> 5 \text{ cells/mm}^3$) with negative cultures for bacteria and fungi; negative latex agglutination studies for bacterial antigens (*Streptococcus pneumoniae*, *Neisseria meningitidis*, *Haemophilus influenzae*); negative India ink for *Cryptococcus neoformans*, and negative PCR for *M. tuberculosis*; also neuropsychiatric syndromes produced by SLE activity which could explain the manifestations were excluded, based on clinical grounds and imaging studies, according to the ACR criteria for neuropsychiatric SLE.

Hung:

A definitive diagnosis of CNS infection was made by isolation of a bacterial or fungal organism from cerebrospinal fluid (CSF) or brain abscess.

Jiang:

Ninety-five SLE patients were confirmed to have CNS infections according to the criteria mentioned below. Medical records of these cases were reviewed, and those lacked key

information were removed from the study. Relevant information was collected, and uncertain cases were discussed by a multiple disciplinary team (MDT) consisting of two rheumatologists, one specialist of infectious diseases, one radiologist, and one neurologist. If the MDT could not come to a consensus on a particular case, that case would be excluded from the study. If a patient in the NPSLE group had a concurrent infection, they were also excluded from the study. NPSLE refers to the neurologic and psychiatric syndromes involving CNS categorized by ACR subcommittee in 1999 with excluding causes other than lupus.

The definitive diagnosis of CNS infections was based on (1) clear etiological evidence, including positive finding of the pathogens from cerebrospinal fluid (CSF) or brain lesion biopsy via microorganism culture or smear with gram, acid-fast, or India ink staining; (2) indirect etiological evidence, including positivity in pathogen antigen/antibody detection, such as the cryptococcal antigen latex agglutination system (CALAS) test, and *Cysticercus cellulosae* antibody detection, or positivity for pathogen DNA detected by polymerase chain reaction (PCR); (3) clinical diagnosis confirmed by expert opinions based on comprehensive evaluation of clinical manifestations, CNS examinations, laboratory findings, and typical neuroimaging results strongly suggestive of CNS infections. Patients with NPSLE would constitute the pool of candidates for the control group.

Kim:

The patients were divided into two groups: those with septic meningitis and those with aseptic meningitis. A definitive diagnosis of septic meningitis was made in patients with corresponding clinical presentations, after isolation from the cerebrospinal fluid (CSF) of a microorganism with stains, cultures, or the polymerase chain reaction (PCR) for *Mycobacterium tuberculosis*.

Aseptic meningitis was defined as a disease entity characterized by clinical presentations associated with meningeal irritation and CSF pleocytosis (>5 cells/mm³), but with negative cultures for bacteria and fungi; negative Gram stains for bacteria; negative acid-fast bacillus stain; negative latex agglutination tests for *Streptococcus pneumoniae*, Group B streptococci, *Haemophilus influenzae* (*H. influenzae*), and *Neisseria meningitidis* (*N. meningitidis*); negative PCR for *Mycobacterium tuberculosis* (*M. tuberculosis*); and negative India ink stain for *Cryptococcus neoformans* (*C. neoformans*).

In this study, aseptic meningitis also included noninfectious meningitis, which can be one of the neuropsychiatric manifestations of SLE.

Vargas:

23 patients were diagnosed with CNS infection, based on any of the following criteria: a positive culture for any micro-organism, Gram stain, acid-fast bacilli (AFB) or India ink stain from cerebrospinal fluid (CSF) or brain tissue specimens, cryptococcal antigen latex agglutination system (CALAS) test; or clinical/laboratory/imaging manifestations strongly suggestive of CNS infection, for example meningeal signs with pleocytosis, computed tomography (CT) scan or magnetic resonance imaging (MRI) showing lesions indicative of brain abscess such as ring-enhancing.

Yang:

A definitive diagnosis of CNS infection was made in patients with a compatible clinical presentation and one of the following: isolation of a bacterial or fungal microorganism from cerebrospinal fluid (CSF) or positive CSF smear on Gram or Ziehl--Nielson staining.