

MENENJİT / ENSEFALİTLİ HASTAYA YAKLAŞIM

**38.
BÖLÜM**

Şafak KAYA¹

Şeyhmust KAVAK²

GİRİŞ

Menenjit, beyni ve omuriliği çevreleyen dokularda, leptomeninkslerin enflamatuvardır bir hastalığıdır ve beyin omurilik sıvısında (BOS) anormal sayıda beyaz kan hücresi ile tanımlanır (1).

ETİYOLOJİ

Bakteriyel menenjit toplumdan edinilmiş veya sağlık bakımı ile ilişkili olabilir. Gelişmiş ülkelerde toplum kökenli menenjitin en sık nedenleri *Streptococcus pneumoniae*, *Neisseria meningitidis* ve 50 yaş üstünde ve/veya hücre aracılı bağışıklık eksikliği olanlarda *Listeria monocytogenes*'dir. Sağlık bakımı ile ilişkili bakteriyel menenjitin ana nedenleri farklıdır (genellikle stafilokok ve aerobik gram-negatif basiller) ve nöroşirurji sonrası ortaya çıkan vakalarda, cerrahi alan enfeksiyonunu önlemek için antimikrobiyal profilaksi verilip verilmemiğine göre değişebilir. Sağlık bakımı ile ilişkili bakteriyel menenjit, ventriküler dren veya şanti olan hastalarda veya kafa travmasını takiben de meydana gelebilir (1,2).

¹ Doçent, Enfeksiyon Hastalıkları ve Klinik Mikrobiyoloji Kliniği, Sağlık Bilimleri Üniversitesi, Gazi Yaşargil Eğitim Araştırma Hastanesi, ksafak76@gmail.com

² Uzm. Dr. Radyoloji Kliniği, Sağlık Bilimleri Üniversitesi, Gazi Yaşargil Eğitim Araştırma Hastanesi, s.ozgurkavak@hotmail.com

KAYNAKÇA

1. Bijlsma MW, Brouwer MC, Kasanmoentalib ES, et al. Community-acquired bacterial meningitis in adults in the Netherlands, 2006-14: a prospective cohort study. *Lancet Infect Dis* 2016; 16:339.
2. Van de Beek D, de Gans J, Spanjaard L, et al. Clinical features and prognostic factors in adults with bacterial meningitis. *N Engl J Med* 2004; 351:1849.
3. Weisfelt M, van de Beek D, Spanjaard L, et al. Community-acquired bacterial meningitis in older people. *J Am Geriatr Soc* 2006; 54:1500.
4. Aronin SI, Peduzzi P, Quagliarello VJ. Community-acquired bacterial meningitis: risk stratification for adverse clinical outcome and effect of antibiotic timing. *Ann Intern Med* 1998; 129:862.
5. Attia J, Hatala R, Cook DJ, Wong JG. The rational clinical examination. Does this adult patient have acute meningitis? *JAMA* 1999; 282:175.
6. Durand ML, Calderwood SB, Weber DJ, et al. Acute bacterial meningitis in adults. A review of 493 episodes. *N Engl J Med* 1993; 328:21.
7. Zoons E, Weisfelt M, de Gans J, et al. Seizures in adults with bacterial meningitis. *Neurology* 2008; 70:2109.
8. Charlier C, Perrodeau É, Leclercq A, et al. Clinical features and prognostic factors of listeriosis: the MONALISA national prospective cohort study. *Lancet Infect Dis* 2017; 17:510.
9. Thomas KE, Hasbun R, Jekel J, Quagliarello VJ. The diagnostic accuracy of Kernig's sign, Brudzinski's sign, and nuchal rigidity in adults with suspected meningitis. *Clin Infect Dis* 2002; 35:46.
10. Thomas AE, Baird SF, Anderson J. Purpuric and petechial rashes in adults and children: initial assessment. *BMJ* 2016; 352:i1285.
11. Kaplan SL. Clinical presentations, diagnosis, and prognostic factors of bacterial meningitis. *Infect Dis Clin North Am* 1999; 13:579.
12. Kornelisse RF, Westerbeek CM, Spoor AB, et al. Pneumococcal meningitis in children: prognostic indicators and outcome. *Clin Infect Dis* 1995; 21:1390.
13. Brouwer MC, van de Beek D, Heckenberg SG, et al. Hyponatraemia in adults with community-acquired bacterial meningitis. *QJM* 2007; 100:37.
14. Brouwer MC, Thwaites GE, Tunkel AR, van de Beek D. Dilemmas in the diagnosis of acute community-acquired bacterial meningitis. *Lancet* 2012; 380:1684.
15. Hasbun R, Abrahams J, Jekel J, Quagliarello VJ. Computed tomography of the head before lumbar puncture in adults with suspected meningitis. *N Engl J Med* 2001; 345:1727.
16. Gopal AK, Whitehouse JD, Simel DL, Corey GR. Cranial computed tomography before lumbar puncture: a prospective clinical evaluation. *Arch Intern Med* 1999; 159:2681.
17. Salazar L, Hasbun R. Cranial Imaging Before Lumbar Puncture in Adults With Community-Acquired Meningitis: Clinical Utility and Adherence to the Infectious Diseases Society of America Guidelines. *Clin Infect Dis* 2017; 64:1657.
18. Montes K, Jenkinson H, Habib OB, et al. Corrected white blood cell count, cell index, and validation of a clinical model for the diagnosis of health care-associated ventriculitis and meningitis in adults with intracranial hemorrhage. *Clin Neurol Neurosurg* 2019; 178:36.

19. Sakushima K, Hayashino Y, Kawaguchi T, et al. Diagnostic accuracy of cerebrospinal fluid lactate for differentiating bacterial meningitis from aseptic meningitis: a meta-analysis. *J Infect* 2011; 62:255.
20. Huy NT, Thao NT, Diep DT, et al. Cerebrospinal fluid lactate concentration to distinguish bacterial from aseptic meningitis: a systemic review and meta-analysis. *Crit Care* 2010; 14:R240.
21. Geiseler PJ, Nelson KE, Levin S, et al. Community-acquired purulent meningitis: a review of 1,316 cases during the antibiotic era, 1954-1976. *Rev Infect Dis* 1980; 2:725.
22. Tunkel AR, Hartman BJ, Kaplan SL, et al. Practice guidelines for the management of bacterial meningitis. *Clin Infect Dis* 2004; 39:1267.
23. Tzanakaki G, Tsopanomichalou M, Kesanopoulos K, et al. Simultaneous single-tube PCR assay for the detection of *Neisseria meningitidis*, *Haemophilus influenzae* type b and *Streptococcus pneumoniae*. *Clin Microbiol Infect* 2005; 11:386.
24. Quagliarello VJ, Scheld WM. Treatment of bacterial meningitis. *N Engl J Med* 1997; 336:708.
25. Bijlsma MW, Brouwer MC, Kasanmoentalib ES, et al. Community-acquired bacterial meningitis in adults in the Netherlands, 2006-14: a prospective cohort study. *Lancet Infect Dis* 2016; 16:339.
26. Durand ML, Calderwood SB, Weber DJ, et al. Acute bacterial meningitis in adults. A review of 493 episodes. *N Engl J Med* 1993; 328:21.
27. Whitley RJ. Viral encephalitis. *N Engl J Med* 1990; 323:242.
28. Connolly KJ, Hammer SM. The acute aseptic meningitis syndrome. *Infect Dis Clin North Am* 1990; 4:599.
29. Johnson RT. The pathogenesis of acute viral encephalitis and postinfectious encephalomyelitis. *J Infect Dis* 1987; 155:359.
30. Mailles A, Stahl JP, Steering Committee and Investigators Group. Infectious encephalitis in france in 2007: a national prospective study. *Clin Infect Dis* 2009; 49:1838.
31. Torre D, Mancuso R, Ferrante P. Pathogenic mechanisms of meningitis/encephalitis caused by human herpesvirus-6 in immunocompetent adult patients. *Clin Infect Dis* 2005; 41:422.
32. Isaacson E, Glaser CA, Forghani B, et al. Evidence of human herpesvirus 6 infection in 4 immunocompetent patients with encephalitis. *Clin Infect Dis* 2005; 40:890.
33. Weinberg A, Li S, Palmer M, Tyler KL. Quantitative CSF PCR in Epstein-Barr virus infections of the central nervous system. *Ann Neurol* 2002; 52:543.
34. Glaser CA, Honarmand S, Anderson LJ, et al. Beyond viruses: clinical profiles and etiologies associated with encephalitis. *Clin Infect Dis* 2006; 43:1565.
35. Beattie GC, Glaser CA, Sheriff H, et al. Encephalitis with thalamic and basal ganglia abnormalities: etiologies, neuroimaging, and potential role of respiratory viruses. *Clin Infect Dis* 2013; 56:825.
36. Misra UK, Kalita J. Neurophysiological studies in herpes simplex encephalitis. *Electromyogr Clin Neurophysiol* 1998; 38:177.
37. Feigin RD, Shackelford PG. Value of repeat lumbar puncture in the differential diagnosis of meningitis. *N Engl J Med* 1973; 289:571.

38. Whitley RJ, Cobbs CG, Alford CA Jr, et al. Diseases that mimic herpes simplex encephalitis. Diagnosis, presentation, and outcome. NIAD Collaborative Antiviral Study Group. JAMA 1989; 262:234.
39. Benson PC, Swadron SP. Empiric acyclovir is infrequently initiated in the emergency department to patients ultimately diagnosed with encephalitis. Ann Emerg Med 2006; 47:100.