

# Epidemiological and morfological analysis of parameters for diagnosing meningitis on Clinical center of Sarajevo University in a period 2007-2014

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Meningitis means inflammation of the meninges. It can be caused by bacteria or viruses. Considering morphology of cerebrospinal fluid, there are purulent and serous meningitis. Purulent meningitis is caused by bacteria and serous mostly by viruses and Mycobacterium tuberculosis. Over 60% of bacterial meningitis in newborns are caused by Streptococcus B, while H. influenza, N. meningitidis and S. pneumoniae are responsible for most cases in patients older than 1 year. Most of serous meningitis cases are caused by Enteroviruses (Echo and Coxsackie group) and Mumps virus. Golden procedure for diagnosing meningitis is lumbal puncture.

Our aim was epidemiological analysis of patients' data on Infectology clinic of Clinical center of Sarajevo University diagnosed with meningitis during the period 2007-2014. Parameters that we analyzed are age of patients, sex, microbiological cause of meningitis, monthly and yearly incidence, symptoms, meningeal irritation signs and analysis of cerebrospinal fluid morphology. 263 patients were analyzed, of which most of them were children (44%). There were 66% of men. More cases were serous (55%) than purulent (32%), while CSF was not analyzed in 15% of cases. Purulent meningitis was mostly caused by S. pneumoniae (55%) and N. meningitidis (25%), while serous meningitis was mostly caused by mumps virus (33%) and HSV (11%). The biggest number of cases was noticed in 2011 and the incidence was the highest (42%) in summer (June-September). 79% of patients had fever, 74% headache and 63% complained on vomiting. Kerning's sign was positive in 41% of cases, upper Brudzinski's sign in 48% and lower Brudzinski's sign in 25%.

According to the results, serous meningitis is more often than purulent, and children are the most exposed group. Symptoms of meningitis are not specific, but if there are associated they can lead us to further diagnostic procedures. Absence of meningeal irritation signs is not excluding the diagnosis of meningitis. These results can be useful when deciding about empiric therapy and triage of patients in primary healthcare.

Keywords: meningitis, meningeal irritation signs

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