

# VALUE OF C-REACTIVE PROTEIN FOR DIFFERENTIATION OF BACTERIAL VERSUS VIRAL MENINGITIS

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In order to differentiate bacterial meningitis versus viral meningitis, we have comparatively tested the efficacy of the following tests: C-reactive protein (CRP), erythrocytes sedimentation rate (ESR), fever, level of glucose in cerebrospinal fluid (CSF), glucose in CSF/glycemia ratio, number of white blood cells in peripheric blood, percentage of neutrophils in peripheric blood, level of proteins in CSF and number of nucleated cells in CSF for a group of 49 patients, both children and adults with central nervous system infection (37 patients with bacterial meningitis and 12 with viral meningitis) hospitalised between May 1993 and July 1994 in Clinical Hospital for Infectious Diseases in Iași. The mean value of CRP in bacterial meningitis patients was 8,78 mg%, contrasting with the mean value of CRP = 1,92 mg% recorded in patients with viral meningitis. Ten out of 37 bacterial meningitis patients presented a CRP concentration <1,85 mg%. All

these 10 patients have already had an antibiotic treatment at the moment of the assay. One out of 12 cases of viral meningitis had a value of CRP = 3,3 mg%, all the remainder cases having values under 1,85 mg%. We recorded highly significant differences between the two patient groups for CRP ( $p < 0,001$ ), ESR ( $p < 0,01$ ), protein concentration in CSF ( $p < 0,001$ ). Differences recorded for fever, concentration of glucose in CSF, glucose in CSF/glycemia ratio, number of leucocytes in peripheric blood and percentage of neutrophils in peripheric blood, were not significant ( $p > 0,5$ ). Data were analysed also by box-plot method which facilitates the visual appraisal of the differences recorded between the two etiological groups. In conclusion, assays of CRP and ESR may be used as differentiation tests for bacterial meningitis versus viral meningitis, when assay is done before the antibiotic treatment, being sufficient sensitive, and easy to perform.