Concentration of soluble form of hepatocyte growth factor receptor in cerebrospinal fluid and serum of patients with bacterial and viral meningitis

Abstract

Background and objectives: C-Met is a proto-oncogene that encodes a protein known as hepatocyte growth factor receptor (HGFR). The HGF receptor possesses tyrosine-kinase activity and it is essential for embryonic development, wound healing and cancer. Many proteins are proteolytically released from the surface by a process known as ectodomain shedding. Shedding occurs under normal physiologic conditions and can be increased in certain pathologies. C-Met can be seen among many receptors for which ectodomain shedding has been shown. The aim of this study was to determine the concentration of soluble c-Met in the cerebrospinal fluid (CSF) and serum samples of patients with viral and bacterial meningitis.

Material and Methods: In this study, 75 CSF and serum samples of patients with bacterial meningitis, 71 with viral meningitis and 82 normal controls were investigated. The soluble c-Met concentration was determined by enzyme linked immunosorbent assay (ELISA).

Result: The amount of soluble c-Met in CSF of patients with bacterial meningitis (83.91±5.50), viral meningitis (80.41±4.71) and control group (22.66±3.39) are compared with that in serum of patients with bacterial meningitis (561.58±25.87), viral meningitis (550.50±34.34) and control group (256.25±18.55). There is significant increase in the CSF and serum’s soluble c-Met expression in the patients with meningitis, in comparison with control group.

Conclusion: The data presented here indicate that soluble c-Met is a constant component of human serum and CSF, but it can not be used for differentiating bacterial meningitis from viral meningitis.

Key words: Soluble c-Met, concentration, cerebrospinal fluid, serum, meningitis

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