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ePoster Viewing

Diagnostic/laboratory methods other than molecular

Radiological findings in neurobrucellosis

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Background: Imaging abnormalities is variable in meningitis or meningoencephalitis due to brucellosis and is not well documented in the literature. It may usually reflect inflammation, whitematter changes, and vascular insult. The aim of this study was to evaluate the neuroimaging abnormalities of in due course of central nervous system (CNS) brucellosis.

Methods: This retrospective study enrolled 263 adult patients with CNS brucellosis (145 male and 118 female patients; age range 15–75 years; median age 36 years) in 26 health care institutions from Turkey. The inclusion criteria for the patients were all of the following (i) the presence of typical cerebrospinal fluid (CSF) findings consistent with meningitis, (ii) the presence of positive culture or serological tests for brucellosis in the blood (positive Rose-Bengal test [RBT] and tube dilution test [TDT] with a titer of 1/160 or over) or in the CSF (positive RBT or TDT with any titer), (iv) and the absence of an alternative neurological diagnosis that explained the clinical presentation. We reviewed 242 MR imaging studies (213 of brain, 29 of spine) and 226 CT scans of brain in 263 patients.

Results: We classified involvement patterns into five groups such as; normal, whitematter changes, vascular changes, inflammation and others. Some of patients imaging findings had involved different groups.

Group 1: 83 of 263 patients had normal CT or MRI findings.

Group 2: 32 (12%) patients who had whitematter changes and 15 out of these 32 patients demyelinating lesions were observed.

Group 3: 42 (16%) patients had vascular changes and of those 39 patients had chronic cerebral ischemia while two cases had subdural hematoma and one patient had subarachnoid hemorrhage.

Group 4: Seventy-eight (30%) patients with inflammatory findings were classified under this category. Forty-three had leptomeningeal involvement, 30 had basal meningeal enhancement, six had brain abscess, six had granuloma, four had enhancement of the spine nerve roots, and three had arachnoiditis.

Group 5: This group had 28 patients. Eighteen patients had hydrocephalus, 12 patients had brain edema, and eight patients had spondylosis.

Conclusion: CNS brucellosis has different spectrum imaging abnormalities. In patient groups we have observed inflammatory changes as the primary abnormality followed by vascular changes. We believe that inflammatory changes are the most suggestive imaging findings for brucellar CNS disease.