TREATMENT OUTCOMES AND NEUROLOGICAL SEQUELAE AMONG TUBERCULOUS MENINGITIS PATIENTS AT SAKAEO CROWN PRINCE HOSPITAL IN EASTERN THAILAND

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Abstract. Tuberculous meningitis is a serious public health problem in Thailand. In this study, we aimed to determine the neurological manifestations, treatment regimens and clinical outcomes among patients with tuberculous meningitis at Sa Kaeo Crown Prince Hospital in eastern Thailand in order to determine whether concomitant corticosteroid use improves the clinical outcome and reduces the risk of neurological sequelae. All medical records of subjects presenting to the study hospital diagnosed with tuberculous meningitis from January 2014 to December 2016 were retrospectively reviewed and the following were recorded for each case: demographics, history of underlying disease, clinical presentation, cerebral spinal fluid results, use of corticosteroids, antituberculous medication regimen, neurological sequelae and clinical outcomes. A total of 26 subjects were diagnosed with tuberculous meningitis at the study hospital during the study period; 53% were male. The average age of study subjects was 39 years old. The most common subject occupation was farmer. Of the 26 study subjects, 15 (58%) presented with headache, 11 (42%) with mental status change and 10 (39%) with fever. Fifteen patients (58%) were HIV seropositive. Eighteen subjects (72%) were treated with isoniazid (INH), rifampicin (RMP), pyrazinamide (PZE), and ethambutol (ETB) for 2 months, followed by INH and RMP for 7-10 months. Twelve subjects (46%) were treated with corticosteroids. Five subjects (19%) died and 10 (38%) had residual neurological sequelae. The most frequently reported neurological sequelae on computed tomography (CT) of the brain imaging were leptomeningeal enhancement (19%) and hydrocephalus (19%). Nine of the 12 subjects treated with corticosteroids (75%) had improved by the time of discharge. One of the 12 subjects treated with corticosteroids (8%) died and 4 of 14 patients not treated with corticosteroids (28%) died but the difference in death rates was not statistically significant (p=0.33). Of the 14 patients who had residual neurological sequelae on CT brain imaging, 4 of the 6 patients treated with corticosteroids (66%) had residual neurological sequelae and 5 of the 8 patients not treated with corticosteroids had residual neurological sequelae; this difference was not significant (p=1.00). In conclusion, in this small study of tuberculous meningitis patients at

the study institution use of corticosteroids did not appear to significantly reduce mortality or neurological sequelae and based on these results, corticosteroids are not indicated in tuberculous meningitis patients in this study institution. Further studies with large numbers of patients are needed to determine if there are subgroups of patients that might benefit from corticosteroids in this study population.

Keywords: tuberculous meningitis, treatment, sequelae

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