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**Scientific Abstract**

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**Apparent Diffusion Coefficient (ADC) Characteristics In Paediatric Tuberculous Meningitis Patients Having Normal Appearing Periventricular White Matter And Deep Nuclei**

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**Objectives:** to measure the mean apparent diffusion coefficient (ADC) values of brain using diffusion weighted spin echo-planar magnetic resonance in normal appearing bilateral periventricular white matter (NAWM) and deep nuclei in paediatric patients with tuberculous meningitis (TBM).

**Materials:** We retrospectively reviewed four paediatric tuberculous meningitis and compare them with four age matched healthy normal MRI brain. ADC values were measured in the bilateral centrum semiovale, Caudate, Putamen, Thalami and Cerebelli using region of interest analysis and values were compared between TBM and control groups and between right and left sides. *Statistical analysis:* The Wilcoxon test (nonparametric test), was used to determine the difference between right and left hemisphere of each individual location with significance value at 0.05. However for the total mean ADC values of all the regions a 'student's t' test was used at  $P < 0.05$ . *limitations:* small sample size is the limitation of this study.

**Results:** The total mean ADC value between the TBM and non TBM groups shows no differences between them at  $P < 0.05$  ( $P = 0.731$ ). There was no difference in the mean/ median diffusivities between the left and the right region of each individual structure in the TBM and non TBM groups at  $P < 0.05$  (using non parametric test). *limitations:* small sample size is the limitation of this study.

**Conclusion:** There is no significant difference in the total mean apparent diffusion values of brain in TBM compare to non TBM group. No significant difference can be derived in differences between the right and left side structures.