"DIFFUSION WEIGHTED IMAGING AS A PREDICTOR OF VISUAL OUTCOME IN ACUTE OPTIC NEURITIS"

ABSTRACT

PURPOSE:

To determine that Diffusion weighted imaging can be used as a predictor of visual outcome in patients with Acute optic neuritis at a tertiary eye care Centre in Southern India.

METHODOLOGY:

It is a hospital based prospective, observational study. 31 eyes of 28 patients with acute optic neuritis who attended the hospital between December 2015 and December November 16 was statistically analysed, with a follow up period of 3 months.

RESULTS:

Mean age was 34 ±10.27 (SD) years. The mean duration of onset of symptoms was 9.11 days ± 6.95 (SD). 64.3% of the patients were females. Left eye was involved in 15 cases (60%). Defective vision was the main complaint in 31 eyes (100%). RAPD was found in 28 eyes. At baseline presentation optic disc showed disc edema in 70.9% of eyes. Colour vision, brightness sensitivity, red desaturation which were abnormal in a majority of patients showed good improvement in significant number of patients post treatment. Median LogMAR at baseline was 1.32 ± 0.86 which improved to 0.14 ± 0.24. after 3 months after treatment with intravenous and oral steroids as recommended by optic neuritis treatment trial. In Diffusion weighted imaging (DWI) diffusion was restricted in 83.9% eyes, contrast was enhanced in 83.9% eyes, optic nerve diameter was increased in 87%and apparent diffusion coefficient (ADC) was reduced in 83.9% eyes at baseline. These eyes showed good prognosis at 3 months follow up compared to eyes which had no diffusion restriction, no contrast enhancement and increased ADC.

CONCLUSION:

Diffusion weighted imaging (DWI) adds value in predicting the visual outcome in acute optic neuritis.

KEY WORDS: DWI, ADC, optic neuritis.