Background: The fornix, the most prominent white matter output from the hippocampus, has been investigated in schizophrenia, and results suggest bilateral disruption of fornix integrity in chronic patients. Since some studies suggest disease-related progressive white matter changes, the purpose of this study was to investigate fornix integrity in first episode patients with schizophrenia and first episode of bipolar disorder (matched with psychiatric controls). Diffusion Tensor Imaging (DTI), offers a way to examine the water diffusion inside the brain. • DTI offers an efficient means to examine the integrity of white matter fiber tracts, the diffusion is anisotropic.

Methods: DTI-MRI and fiber tractography were used to evaluate the fornix in 15 schizophrenic patients, 15 bipolar patients, and 18 healthy controls, matched on age, parental socioeconomic status and handedness. Mean Fractional Anisotropy (FA) (Figure 3), a measure of the degree of anisotropy, was then calculated and averaged over the entire tract for each subject. (Figure 4)

CONCLUSIONS

The negative findings of this study suggest that in early stages of schizophrenia there is no disruption to the integrity of the fornix, further suggesting that these abnormalities appear later, with progression of the illness.

REFERENCES


McCarley RW, Kubicki M, Nestor PG, et al (2001): Fornix abnormalities at the onset of schizophrenia, indicating that white matter changes in this structure appear later, during the course of the disease.