OP 6 Are There Differences In Brain Microstructure In Migraine With And Without Aura: A Diffusion Tensor Imaging Study

Aygül TANTİK PAK[1], Sabahat NACAR DOĞAN[2], Şengül YILDIZHAN[1]
[1]Neurology Department, Gaziosmanpaşa Taksim Research and Training Hospital, İstanbul, Turkey
[2]Radiology Department, Gaziosmanpaşa Taksim Research and Training Hospital, İstanbul, Turkey

Background: Migraine is a heterogeneous disease. In 20% of cases, reversible focal neurological symptoms accompany migraine headaches (Migraine with aura-MWA).In recent years, the question has arisen that MWA and migraine without aura (MWoA) may be two separate entities. White matter microstructural changes have been reported via Diffusion tensor imaging(DTI) in MWA. However, there was no difference in diffusion parameters between MWA and MWoA. A recent study found that migraine patients had less cerebellar peduncle volume. We aimedto compare brainstem and cerebellar peduncles between MWA and MWoA, as well as to determine the relationship between changes in these structures with pain severity and migraine disability.
Method: Patients were recruited from our outpatient clinic and diagnosed with MWA and MWoA based on the International Classification of Headache Disorders 3rd edition criteria. We compared microstructural changes in cerebellum and brainstem using DTI between 23 MWoAs and 17 MWA. Visual analog scale(VAS) and migraine related disability scale(MIDAS) were applied to patients.
Results: The mean age of participants was 35,43±8,03 years, VAS score was 9,05 ±1,06, MIDAS score was 2,93±1,02. Cerebellar peduncles and brainstem values compared between MWA and MWoA patients, there was no significant differences. VAS scores were correlated with medial leminuscus, MIDAS scores were correlated with pontine cross.
Conclusion: In our study which we aimed to find out cerebellar and brainstem microstructural abnormalities between MWA and MWoA patients, there was no significant difference but we found a relationship between brainstem and perception of pain. More studies are needed on this subject.