Analysis of Parahippocampal Gyrus in 115 Patients with Hippocampal Sclerosis

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Purpose
Analysis of involvement of the parahippocampal gyrus (PHG) in 115 patients with hippocampal sclerosis (HS) by MR imaging. The simultaneous occurrence of ipsilateral fornix anterior column (FAC) and mamillary body (MB) volume loss was studied also. These findings were correlated with the side of hippocampal involvement, the sex and age of the patients, and the onset of symptoms.

Materials & Methods
The MR images of 115 patients with HS were studied retrospectively. All the examinations were performed on 1.5 T units (SIGNA, GE, Milwaukee, WI) and included high resolution coronal T2-weighted images (3 mm thickness, 0.6 mm gap).

Results
The ages of the patients ranged between 3.5 and 80 years (mean 34.1); 62 (53.9%) were female and 53 (46.1%) were male. There were HS on the left side in 53 (46.0%), on the right side in 51 (44.3%), and in 11 (9.7%) the involvement were bilateral. In 43 (37.3%) cases there were ipsilateral PHG volume loss and signal hyperintensity on T2-weighted imaging. In 29 (25.2%) cases there were ipsilateral FAC volume loss and in 10 (34.5%) of this there were also ipsilateral MB changes. In abnormal PHG, 23 (53.4%) were on the left side, 17 (39.5%) were on the right side, and 3 (7.1%) were bilateral. There were FAC changes in 15 (34.8%) cases and MB volume loss in 5 (11.6%) cases. Pertinent clinical data were obtained in only 18 (41.8%) of the PHG lesion cases and 11 (61.1%) of these patients had presented with epileptic attacks for more than 20 years before the examination.

Conclusion
PHG involvement must be researched in patients with HS and the term mesial temporal sclerosis must be used only if there are also changes at this anatomical site.