

Kohonen's self-organized feature maps). Despite the disproportion between the degrees of freedom of the input dimension of the nets and the relatively small amount of pre-processed data supplied to the nets, we achieved a correct classification in 73%. In conclusion, we think that the artificial network approach in combination with qEEG might eventually be a promising and relatively cheap method for the prediction of relapse

#### **Altered cerebral blood flow in patients with conversion disorders**

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Our objective was to ascertain the patterns of altered regional cerebral blood flow (rCBF) in patients (pts) with conversion disorder. Prior brain imaging studies have implicated dominant hemisphere mechanisms in conversion disorder. In five pts (three females, two males; mean age:  $29.8 \pm 9.5$ ) with astasia abasia the changes in rCBF were examined using Tc-99m-HMPAO SPECT. The uptake ratios of Tc-99m-HMPAO in the areas of regional perfusion defects were compared with the normal contralateral cortical areas by ROI techniques in the sequential transverse slices. Four of five pts consistently had left temporal and one pt had left parietal as well as right occipital perfusion defects. Additionally, one pt had left parietal and one had right temporal perfusion defects.

The uptake ratios ranged from 0.72 to 0.87 (mean = 0.81). These preliminary findings suggest that alterations in rCBF may accompany expression of conversion symptoms. The correlations between perfusion changes and clinical status need to be assessed on larger samples in follow-up studies.

#### **EEG response to phenibut therapy in hyperactive children**

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The purpose of the study was to assess the efficiency of phenibut therapy in hyperactive children with attention deficiency (ADHD) (DSM-IV). Neurological and digital EEG examinations were carried out in 15 ADHD patients, 7–9 years old, before (day 0) and on the last day of therapy (day 30). EEG of 20 healthy children of the same age was employed as controls. In comparison with normals ADHD children had significantly lower values of spectral density in the broad frequency band from 1.5 Hz to 11.5 Hz (especially in frontal and central regions) and in the narrow frequency band from 9.5 Hz to 11.5 Hz (especially in parieto-central regions). A decrease of spectral density was registered in the beta band in almost all regions. After the course of therapy the differences between the EEG of healthy and ADHD children decreased. It appeared to be possible to predict the efficiency of phenibut therapy by means of EEG. The background EEG of clinically responsive patients showed higher values of spectral density in the 5.0–8.5 Hz band in comparison with non-responders.