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Antiepileptic drug treatment in seizure-free mesial temporal lobe epilepsy patients with hippocampal sclerosis following selective amygdalohippocampectomy

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KEYWORDS

Postoperative antiepileptic drug treatment;
Mesial temporal lobe epilepsy;
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Selective amygdalohippocampectomy

Summary Retrospectively we analysed postoperative AED treatment in patients with mesial temporal lobe epilepsy and hippocampal sclerosis (MTLE-HS) who were seizure free following selective amygdalohippocampectomy (AHE). In this subgroup, we compared the patients without AEDs with that in the entire series. **Results:** During the year prior to surgery, in the MTLE-HS group, a mean of 2.3 ± 0.8 AEDs were taken. The percentage of seizure-free MTLE-HS patients without AEDs increases to 40% from the postoperative year 5 on. In the ILAE Class 1a (seizure- and aura-free since surgery) at postoperative year 5 more than 60% and from postoperative year 7 on more than 90% have discontinued AED intake. **Conclusion:** These figures indicate that reduction and discontinuation of AEDs is the same in the subgroup "seizure-free MTLE-HS patients" compared to the entire series.

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Introduction

Recently we have reported in great detail the postoperative seizure outcome and the pre- and postoperative antiepileptic treatment in patients who underwent selective amygdalohippocampectomy (sAHE) in Zurich.^{1,2} Here we report the year-by-year AED treatment after sAHE in the most interesting subgroup, i.e. seizure-free patients with mesial temporal lobe epilepsy (MTLE) and the histopathology of hippocampal sclerosis (HS).

We classified seizure-free patients as "free of disabling seizures", i.e. seizure outcome Engel Class I^{3,4} and as "completely seizure- and aura-free", i.e. ILAE seizure outcome Class 1, and "completely seizure- and aura-free since surgery", i.e. ILAE Class 1a.⁵

Results

The number of patients falling into these three seizure-free outcome classes year-by-year and the percentages of patients without AEDs, with AED mono- and polytherapy are shown in Fig. 1.

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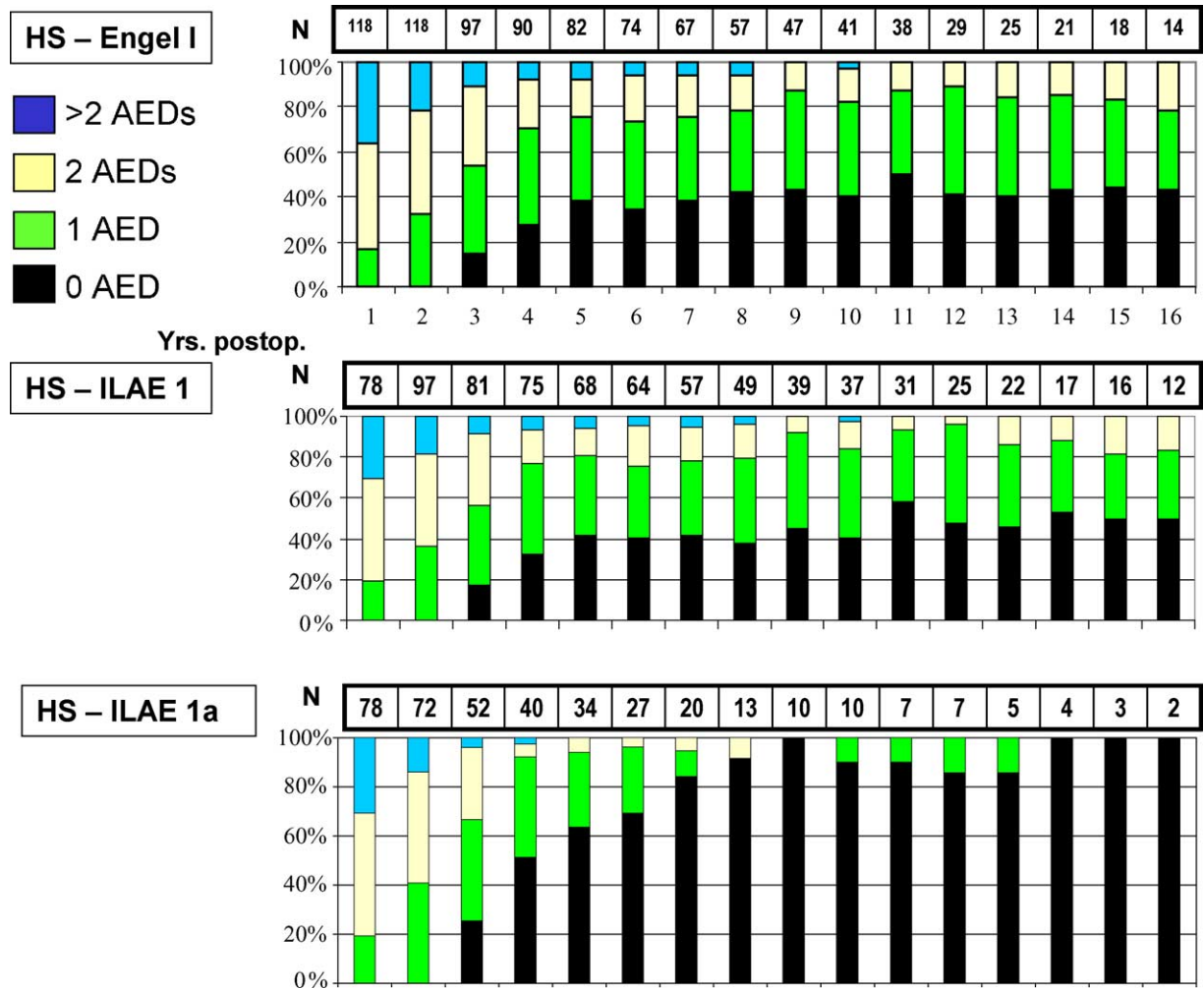


Figure 1 Annual distribution (in %) of seizure-free patients with mesial temporal lobe epilepsy who had hippocampal sclerosis (HS) following selective amygdalohippocampectomy and antiepileptic drug (AED) intake. Number of patients falling into seizure outcome Engel Class I (free of disabling seizures), ILAE Class 1 (seizure- and aura-free) and ILAE Class 1a (seizure- and aura-free *since* surgery) are given at the top of graphs.

Discussion

There is controversy whether surgical outcome is different for MTLE with HS (MTLE-HS) compared to other forms of TLE, although a positive association has been found between the presence of MTLE-HS, extent of mesial resection and good seizure outcome. Seizure outcome in MRI-negative patients and in patients without histopathological abnormalities in the resected specimen is poor. The comparison of outcome of MTLE-HS with 'lesion only' also is controversial, in particular with a view towards postoperative AED treatment, but 'lesion' has to be defined. There are studies suggesting that 'lesion only' patients do better than those with HS alone, and that rate of seizure recurrence might be higher in MTLE-HS. Other studies, such as those from UCLA, however, show no

difference less than 5 years after surgery, and long-term seizure control is even slightly worse in 'lesion only' compared with 'HS only' in the UCLA series. However, the differences of lesion type have to be taken into account, because some studies suggest that certain foreign tissue lesions, such as ganglioglioma and DNET, are associated with a good to excellent outcome as opposed to more diffuse dysplasias with a moderate to poor outcome, depending on the extent of the resection.

In the Zurich sAHE *seizure* outcome study¹ patients with MTLE and foreign tissue lesions did better than MTLE-HS patients: 5 years after surgery 69% of patients with foreign tissue lesions versus 63% with HS were Engel Class I. At postoperative years 10 and 15 the respective percentages are 70 and 64% for foreign tissue lesions, compared to 56 and

54% for MTLE-HS. In this seizure outcome study, the most striking difference was seen in the percentage of patients ILAE Class 1a. At postoperative years 5, 10, and 15 the percentages for ILAE 1a were 48, 50, and 32% for foreign tissue lesions versus 28, 17 and 13% for MTLE-HS.

However, the AED treatment in the subgroup "seizure-free patients with MTLE-HS following sAHE" compares favourably with the overall year-by-year AED treatment of the whole series.² In the entire series during postoperative years 7–11, 40% or slightly more of patients without disabling seizures were off AEDs. The same percentage or even slightly higher percentages are evident from Fig. 1 in the subgroup "seizure-free patients with MTLE-HS following sAHE". The same holds true for the outcome ILAE Class 1a: In the entire sAHE series we found that from postoperative year 7 onwards more than 90% of patients in Class 1a were without AEDs and comparable figures are found in the subgroup "seizure-free patients with MTLE-HS following sAHE".

Seen together these results show that patients with MTLE-HS and selective mesial temporal re-

sections experience about the same rate of AED reduction compared to the entire series with various different histopathologies, if sAHE results in seizure freedom.

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