EDITORIAL COMMENTARY

The outcome of epilepsy surgery

The rapid expansion in epilepsy surgery over the past decade has been principally underpinned by advances in brain imaging. In particular, the development of high resolution MRI, which can identify and predict the pathology of underlying lesions and define their anatomical relation to other brain structures.[1] The importance of this prediction is that the nature of the underlying lesion is a major determinant of the chance of a good result from surgical resection. Overall the chances of long term freedom from seizure after resection of a sclerotic hippocampus is about 60%.[2] Surgery on malformations of cortical development carries less good odds, with an overall 40% chance of remission.[3] Hennessy *et al* (this issue, pp 450–458)[4] report a retrospective analysis of the outcome and pathology of 80 patients who had en bloc temporal lobe resections between 1976 and 1995 and in whom a focal lesion was identified. Overall, 71% of patients were seizure free for at least 1 year during 5 years of follow up with the outcome being largely determined in the first 2 years, and 50% remained seizure free at 6 year follow up. The chance of a good outcome was significantly better in patients with dysembryoplastic neuroepithelial tumours than it was for those with less discrete developmental lesions, such as focal cortical dysplasia. This result reinforces the concept that a good result is most likely if the structural lesion that underlies the epilepsy is removed, and if the rest of the brain is normal, although a good result may still be obtained with incomplete removal of a lesion. Notwithstanding the importance of defining the structural pathology with MRI it is necessary to establish concordant clinical and EEG data, with ictal video-EEG recordings, and to undertake thorough neuropsychological, psychiatric, and social evaluations. This is necessary as some patients with clear cut structural abnormalities have seizures arising from elsewhere in the brain, 5%–10% of those referred for consideration of epilepsy surgery have non-epileptic attacks, and a significant proportion have psychosocial issues that need to be addressed.

In the paper by Hennessy *et al*[4] a long duration of epilepsy was an adverse prognostic feature, with remission in 88% of those with a duration of epilepsy of less than 10 years and 57% if this was more than 20 years. One of the persistent features of most epilepsy surgery series is that the median duration of epilepsy in patients who are referred is 15–20 years. Given the low likelihood of remission of epilepsy with pharmacological treatment if seizures have continued despite trying two or three antiepileptic drugs over 2 years, the case for much earlier consideration of epilepsy surgery is clear and mandates a change in the current referral practice of patients from paediatricians and adult neurologists to epilepsy surgery centres. It is estimated that 3% of all people who develop epilepsy—those with refractory partial seizures that are arising from a discrete and non-crucial part of the brain—would benefit from surgical treatment. This amounts to about 1000 cases a year in the United Kingdom and needs to be taken into account in the planning of tertiary referral epilepsy surgery centres.[5]

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