Summary

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I have not received as much enjoyment in 1997 from any other epilepsy meeting than this. There have been a great number of epilepsy meetings, particularly surrounding the efficacy of new antiepileptic drugs. Our surgical colleagues have looked somewhat askance at such drug efficacy. The surgical treatment of epilepsy is certainly here to stay for now until better "mouse traps" are developed. When Wilder Penfield spent six months with Otfried Foerster in Breslau, Foerster was the major person involved in the surgical treatment of epilepsy and Penfield took on this area and developed it in Montreal. He was followed by Theodore Rasmussen in Montreal and by Murray Falconer in London, England. In the 50s, the interest in surgical treatment of epilepsy in many parts of the world dropped drastically; in some areas such as Germany and Japan, it was virtually proscribed. When asked why this decline in epilepsy surgery had occurred, Rasmussen remarked: "It was a case of the wrong surgeons operating on the wrong patients."

Around this time, the concept of temporal lobe epilepsy began to develop. Unlike epilepsy emanating from the Rolandic area whose manifestations were patent, those of temporal lobe epilepsy were much less tangible. Therefore, the first period of flowering was brought in by the electroencephalogram, the Jasper School making temporal lobe epilepsy surgery possible. It is surprising that the results in those early days were so remarkably good given the amount of information that was available. Neuroradiologists such as Arthur Childe and Donald McRae were very astute in relying on plain x-ray findings such as the size of the middle cranial fossa and the height of the petrous pyramids to infer what was happening in the temporal lobe. It became clear that the patients with bitemporal epilepsy did less well than those with unitemporal disease.

A period of increase in interest in temporal lobe epilepsy recently occurred in the United States; whether this was mainly for treatment or because of economic motivation remains to be fully assessed. Modern neuroimaging has clarified, as well as has electroencephalography, who is an appropriate candidate for temporal lobe epilepsy surgery and to some extent can predict its efficacy. Patients with straightforward temporal lobe epilepsy are becoming somewhat of a rarity among major centres; those with clear unilateral temporal lobe epilepsy can be operated successfully in any of the 14 Canadian centres. None of our centres is at all substandard. To operate only on "ideal" candidates, such as carried out previously at Oxford, may not be doing the procedure justice for some patients. One should extend the work and try to help patients whose congruence is not as straightforward. The challenge now involves those patients with bilateral temporal epilepsy, i.e. those with seizures coming from both sides. This workshop did not fully address this aspect. Should these patients be operated on at all? Should they be operated on the side of greater atrophy, or on the side of greatest number of seizures recorded, is yet to be determined.

A second issue surrounds memory and the question of the failed amytal. This does not always imply that a global amnesia will result. There is clear merit in studying intensely these few patients who have memory dysfunction bilaterally.

The etiology of the epilepsy has a lot to do with the outcome of surgical treatment. It is possible that patients with bitemporal pathological changes may have all or most of their seizures coming from one side. Patients with postencephalitic epilepsy have a particularly unfavourable prognosis as the epilepsy involves the temporal lobes but also extratemporal structures. In such patients with marked abnormalities on both sides, it may not matter which side one operates upon.

Patients with intractable temporal lobe epilepsy should all be investigated thoroughly. Until one does this, one can never fully predict what one is going to find. The London group have emphasized the importance of earlier surgery for temporal lobe epilepsy in children. The question remains as to whether any subgroup of children with temporal lobe epilepsy will stop having attacks spontaneously and permanently.

The EEG remains as a gold standard for determining the source of epileptogenesis. However, it is not the only gold standard anymore and neuroimaging and functional neuro-imaging will play increasing roles. The group of Sam Berkovic in Australia has shown the value of SPECT. Their studies have explained the ipsilaterality and contralaterality of some temporal lobe ictal symptoms. The role of PETscanning in understanding the mechanisms is yet to be clarified but it has much to offer.

The presence of psychiatrists who are experts in the psychiatry of temporal lobe function has certainly enhanced this meeting. Relatively few people show interest in the psychiatric problems among patients with temporal lobe epilepsy.

The new techniques of functional MRI scanning may well enhance our understanding of the brain's function and may aid in deciding upon appropriate surgical treatment.

Continued improvment in the surgical techniques has certainly been helpful. Doctors Olivier and Parrent have presented evidence describing their current approaches to temporal lobe problems. Both have a wish to deal with this in a simpler and less invasive manner. How this will "play out" in the next several years will be most interesting.

The question of complications should always be addressed. These have been markedly reduced in the past years and perhaps could be reduced further. Similarly, the question of failures could be addressed by all groupsworking in this field. A limiting factor is the absence of a visible lesion in patients who have, on EEG, an identifiable seizure origin; these patients do not do quite as

well. This problem was first addressed by Mr. Murray Falconer. Extratemporal origins of temporal seizures should be recognized; for example, a visual aura often indicates a posterior origin and anterior temporal lobectomy would be doomed to failure. Symptoms or signs which “don’t fit” should be a red flag to those considering a temporal lobectomy.

I think the country needs Sam Wiebe, as the issue of epidemiology has hardly been addressed in the literature.

Canada can be justifiably proud and satisfied with what is being done for patients with epilepsy in the tradition started by Wilder Penfield and his group 70 years ago.

I thank Mrs. Maria Raffa for making all the arrangements so efficiently. I appreciate that Warren Blume and John Girvin thought of organizing this meeting and I hope that this is simply the first of many of this genre.