

Introduction to Hong Kong Epilepsy Society (HKES)

The HKES is a non-profit-making organisation established in November 2002. It aims at maintaining effective cooperation of all persons active in the field of medical sciences, public health, and social care, who are concerned with problems related to epilepsy. Every year various congresses, symposia, workshops or meetings are held to promote dissemination of scientific knowledge on epilepsy. The executive council mainly consists of medical professionals with adult and child neurologists, neurosurgeons, neuroradiologists, and neuropsychologists. The Society has published a booklet *"Your Guide of Epilepsy"* which covers essential information regarding epilepsy and enjoys popularity among people with epilepsy.

Modern management of epilepsy

In the past two decades we have witnessed a huge explosion in literature on epilepsy, followed by introduction of many more AEDs and innovative surgical techniques in controlling intractable seizures. Modern management of epilepsy requires sound knowledge on seizure differential diagnosis and neuropharmacology, proper classification of epilepsy, prompt referral for epilepsy surgery in drug-resistant epilepsy, as well as providing counselling and information at appropriate times.¹ Special population groups comprising children, elderly, and women require careful considerations on certain issues, eg learning and behaviour in children, pregnancy and AED teratogenicity in reproductive women, drug interactions with polypharmacy and comorbidities in the elderly. An appraisal of the medical literature and translating evidence into practice guideline appears timely.

Epilepsy care in Hong Kong

The standard of epilepsy care in Hong Kong is heterogeneous and people with epilepsy are often managed by general practitioners, physicians, paediatricians, geriatricians, psychiatrists, neurosurgeons, neurologists, developmental paediatricians, child neurologists, or child psychiatrists. While quality care is often deficient in the primary sector, the specialist clinics are overloaded with people with stable epilepsy. People with drug-resistant epilepsy also lack referral channels. These problems may be attributed to the absence of a tertiary epilepsy centre, which accounts for underdevelopment of epilepsy surgery and paucity in structured

teaching programmes. It is envisaged that the future establishment of the Neuroscience Institute in Hong Kong would resolve these issues. During this interim period, an evidence-based and up-to-date epilepsy guideline would be useful in setting the standard of medical care.

Epilepsy guidelines

Guidelines can be defined as systematically developed statements to assist practitioner decisions about appropriate health care for specific clinical circumstances. Professional societies and scientific bodies have published various guidelines and topical reviews on epilepsy, such as the NICE (www.nice.org.uk) and SIGN (www.sign.ac.uk) guidelines from the UK and Scotland respectively, practice parameters by American Academy of Neurology (www.aan.com), and topical reviews by ILAE (www.ileae-epilepsy.org). Other regional guidelines are available from Malaysia, China, and Italy. As always, people are skeptical about guidelines. Criticisms include non-evidence-based, potential for misuse during legal litigations, bias towards health economics with restriction of physician's autonomy, and irrelevant to clinical practice. On the other hand, formulation of a guideline does provide an essential link between clinical practice and advances in basic and clinical sciences. It helps us to identify gaps in evidence and areas of uncertainty, which in turn would generate further research. Modification of clinical practice would ensue following clinical auditing and medical education and after all the benefit will be translated into patient's interest.

Methodology

Both the NICE (CG 20, 2004) and SIGN (no. 70, 2003, revised 2005) guidelines were well-written, comprehensive, and evidence-based. They were employed as templates in preparing the Hong Kong Epilepsy Guideline. Literature search was conducted via Medline retrieving original and review articles using key words—eg epilepsy, epileptic seizures, convulsions, neuroimaging, EEG, meta-analysis—from 2003 to mid-2007. The new evidence is classified and translated into recommendations as shown in Appendix A. The first draft was prepared in 2007 and revised after a number of consensus meetings. The second version was scrutinised by our external reviewer in 2008. Review of the latest medical literature from mid-2008 to mid-2009 was finally conducted and new recommendations were added.

Appraisal of evidence

The choice of AED in newly diagnosed epilepsy has been a controversial topic for many years, and this is taken as an example to illustrate the gap between existing evidence and translated recommendation. Many studies have shown that the newer AEDs are similar to standard AEDs in terms of efficacy. The SANAD trial (UK)^{2,3} was a pragmatic study designed to answer the question of the best monotherapy for new-onset epilepsy. It comprised two populations with partial (arm A, n=1721) and generalised/unclassified epilepsy (arm B, n=716) respectively. Arm A was randomised to carbamazepine (standard), or gabapentin, lamotrigine, topiramate or oxcarbazepine and arm B was randomised to valproate, lamotrigine or topiramate. The endpoints were time to treatment failure and time to 12 months' remission.

In conclusion, valproate was more effective than lamotrigine and better tolerated than topiramate in arm A. Hence valproate is the drug of choice except in reproductive women because of concern of teratogenicity. This recommendation was consistent with our daily clinical practice. In arm B, lamotrigine was comparable to carbamazepine or oxcarbazepine in terms of efficacy but tolerability is better. Gabapentin and topiramate were relatively less potent. Shall we recommend lamotrigine as the standard AED in partial epilepsy based on SANAD study? The simple answer is "no".

The recommendation based on a composite measure of efficacy and general side-effects is not far from the truth. However, a number of points have to be borne in mind. First, the impact of rare but serious side-effects of lamotrigine has not been considered (eg toxic epidermal necrolysis and Stevens-Johnson syndrome). Second, different titration schedule of lamotrigine vs carbamazepine may account for the observed difference in tolerability. Third, other new AEDs such as levetiracetam and pregabalin are not included in this randomised drug trial. Our consensus is that such a simple approach may limit physician's choice of AED in matching AED profile with patient's characteristics. Instead of making specific recommendations about AED therapy, we feel that the best treatment strategy should be individualised according to the seizure type and severity, epilepsy syndrome, co-medication and co-morbidity, the individual's lifestyle and preference (see Guideline Section 8).

References

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Dissemination of the guideline

It is a common conception that passive methods of dissemination (eg professional journals) rarely lead to changes in practice. This impression is reinforced by the UK TIGER trial, which aimed at determining the effectiveness of dissemination strategies regarding the use of the 1997 SIGN guideline.⁴ Altogether 68 practices were randomised as follows:

- (1) Control group were sent copies of guideline in post;
- (2) Intermediate group received guideline plus invitation to workshops and two protocol documents; and
- (3) Intensive group was also offered services of Epilepsy Specialist Nurse.

It turned out that the number of planned reviews per patient did not change after the intervention and the number of sessions at which counselling given only increased marginally. Essentially there was no change in practice among the three groups.

Conclusion

Physicians are busy but they may find a guideline useful if this is brief, simple, evidence-based, and comes from reputable source and quality. Alternatively, the guideline is also invaluable if the problem is complex or it adapts to particular patient needs. The Hong Kong Epilepsy Guideline is prepared to fulfil these criteria and we are looking forward to a change in clinical practice in the next decade.

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