APPLICATION FOR INCLUSION OF PHENYTOIN FOR CHILDHOOD EPILEPSY IN THE WHO ESSENTIAL DRUG LIST

Phenytoin is a widely used anticonvulsant for the management of acute and chronic epilepsy in children. The current essential medicines list includes phenobarbital for the treatment of epilepsy in children. While it is true that phenobarbital is effective in the treatment of many of epilepsy syndromes in children as indicated in the application, its side-effect profile means that it is no longer recommended as first line therapy in many developed countries. Alternatives to phenobarbital are needed for the appropriate management of childhood epilepsy.

This application identifies randomized controlled studies that support the use of phenytoin in children. The application clearly identifies the both the efficacy and safety issues related to the use of phenytoin in the treatment of childhood epilepsy. It should be noted that a formulation of phenytoin, suitable for the treatment of adults, is currently listed on the essential medicines list.

(1) Have all important studies that you are aware of been included?

Yes ☑ No ◎

(2) Is there adequate evidence of efficacy for the proposed use?

Yes ☑ No ◎

If "No", suggest what is needed.

(3) Is there evidence of efficacy in diverse settings and/or populations?

Yes ☑ No ◎

If "No", suggest what is needed.

(4) Are there adverse effects of concern?

Yes ☑ No ◎

These are well described in the application. The main concern is narrow therapeutic range of phenytoin that often means that therapeutic drug monitoring is needed for the safe use of this medicine. Furthermore, in some circumstances, the corrected phenytoin level may correspond with efficacy and safety while the total measured concentration may not.

(5) Are there special requirements or training needed for safe/effective use?

Yes ☑ No ◎

The clinician will need familiarity with phenytoin because of its non-linear kinetics and predisposition to toxicity at higher doses. Furthermore, alterations in total plasma drug concentration may not reflect changes in free drug, further complicating its clinical use. The drug also has several potential drug interactions that need consideration.

(6) Is this product needed to meet the majority health needs of the population?

Yes ☑ No ◎

(7) Is the proposed dosage form registered by a stringent regulatory authority?

Yes ☑ No ◎

(8) What action do you propose for the Committee to take?

I propose that the committee approve the addition of phenytoin for children. The actual approved formulations are to be decided.

(9) Additional comment, if any.