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- ❖ **Name of the International Conference/ Seminar/Symposium/ Workshop** : 68th Annual Meeting of The American Epilepsy Society-2014
- ❖ **Title of the abstract accepted** : Controversies in contraception for epilepsy
- ❖ **Venue & Date** : Seattle, WA, USA, 5-9th December 2014
- ❖ **Money sanctioned** : ₹ 1,00,000/-
- ❖ **Money reimbursed** :

### Participation Report

The annual meeting of the American Epilepsy Society is the oldest scientific annual program in the world. This year the 68th Annual meeting of the AES was held at Seattle, WA, USA. A total of more than 5000 delegates from over 60 countries had participated in this meeting. The main academic program consisted of AES fellows program, Epilepsy Specialists symposium, Annual fundamentals of epilepsy symposium, Special interest group meetings, Task force meetings, named lectures, and workshops. The top scientists in the respective fields from Europe, Australia and Asia led these sessions.

- Academic highlights of the training/workshop including major recommendations and the following: new development presented at the training / workshop

The annual meeting covered a wide area of research and clinical practice related to epilepsy. The epidemiology, mortality, fundamental basics of epileptogenesis, molecular mechanisms, and co morbidities were discussed in these sessions. The discussions in these topics were of particular importance to India, where we are fast bridging the gaps in the research and care for epilepsy.

i. New development presented at the training / workshop

The special interest group meeting on women with epilepsy deserves particular attention. There were four speakers in this 90 minutes session. Dr. Samuel Berkovic (Melbourne Australia) spoke on the genetic aspects in pre conception counseling for women with epilepsy. He drew attention to the need to take detailed pedigree charts for the subjects. Dr. Brian (Melbourne, Australia) spoke on the teratogenic effects of antiepileptic drugs Dr. Andrew Herzog (Harvard University, Boston USA) spoke on catamenial epilepsy and the opportunity to improve seizure control through the optimal

use of progestogens. Myself (SCTIMST, Trivandrum, India) spoke on the controversies regarding contraception in women with epilepsy. I had discussed the potential failure of oral contraceptives when women use it along with enzyme inducing antiepileptic drugs. I had highlighted the unique oral contraceptive -ormeloxifene - developed in India that can be an effective alternative to hormonal oral contraceptives.

ii. New Development resulting from the training /workshop

This meeting had opened up several new areas of potential research. Epilepsy is a very common condition in India. The mortality related to epilepsy is not adequately studied. There is an urgent need to carry out studies in to the mortality of epilepsy. The Treatment gap for epilepsy in India varies from 35% to 90%. Several newer antiepileptic drugs have come in to the market recently. It is important to carry out phase 4 studies in to the efficacy of these drugs in the management of epilepsy. It is possible that the Indian population that is different from the Westerners in genetic background may have a different pharmacokinetic response to these drugs. Surgery for epilepsy is emerging as an important alternative for medically refractory epilepsy. At Sree Chitra Tirunal institute, we would like to carry out new research in to expand the scope of surgery for epilepsy. Women with epilepsy carry important risk with regard to reproductive function and fetal malformation. The research that we carry out through the Kerala Registry of Epilepsy and pregnancy would be expanded in the light of the discussions in this meeting.

- iii. Name of the publication      Annals of Indian Academy of Neurology is  
in case your work is            reviewing and is likely to publish the text of my  
recommended for                presentation.  
publication

8 Participant's contribution to the training / workshop (100 words)

I gave an invited talk on controversies in contraception for women with epilepsy. There are about 50 million people with epilepsy in the world and a quarter of them are in the reproductive age group. Women in reproductive age group frequently need to adopt effective and safe contraceptive measures to avoid unplanned pregnancies. Contraceptive may be required while managing certain gynaecological conditions such as dysfunctional uterine bleeding. There are several concerns regarding the efficacy and safety of traditional contraceptive methods in women who are on anti epileptic drugs. The Kerala Registry of Epilepsy and Pregnancy was established in SCTIMST in 1998 and is the only registry outside Europe, Australia and America. It is unique in enrolling women in preconception stage and following up the women through pregnancy and delivery until the children and 12 years of age. We have now more than 2300 registrations in this registry. This design of the registry had given us the opportunity to examine the contraception preferences and practices in women with epilepsy. Recent data from our registry indicates that women with epilepsy have significant hormonal dysfunction that may lead to irregular menstruation or infertility. Epilepsy and antiepileptic drugs can predispose to irregular menstrual cycles, anovulatory cycles and dysfunctional bleeding which may interfere with reliable timing of contraception. Concomitant use of certain enzyme inducing antiepileptic drugs such as carbamazepine reduce the efficacy of with oral contraceptive pills as the former increase the metabolism of estrogen. In such instances, pills containing higher concentration of estrogen (more than 50 micrograms) are recommended. An alternative would be to use progesterone only pills or injections of medroxy progesterone once in three months.

Another important issue related to concomitant use of oral hormonal contraceptive pills and antiepileptic drug is the interaction between the two leading to lower levels of antiepileptic drugs in the blood and thereby break through seizures. Women with epilepsy who are preferring oral contraceptive pills need to be cautioned about the reduced efficacy of antiepileptic drugs and risk of break through seizures. Other means of contraception such as intrauterine devices have limited preference in western world, but have been quite successfully used in developing countries. These methods offer effective contraception for periods up to five years and could be reversed by removing the device, when the couple intend to have pregnancy. Barrier methods such as condom and physiological rhythm methods are not very reliable and are not generally recommended. It is important that the neurologist who treats women with epilepsy discuss the contraception requirements with the patient and highlight the interactions between antiepileptic drugs and hormonal contraception and likely risk of seizure recurrence as well as unplanned pregnancies