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Mughis Sheerani
South City Hospital, Karachi, mughis.sheerani@gmail.com

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Mughis Sheerani M.D
SIUT, Karachi South city Hospital, Karachi

Correspondence to: *South City Hospital, Karachi, Email: mughis.sheerani@gmail.com*

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Listening to Dr Sarosh Irani in a recent Epilepsy conference about Fascio Brachial dystonic seizures associated with voltage gated potassium channel (VGKC complex/LG1 antibodies)[1] and then reading reports published in Neurology about continued recent use of trephination 'expelling the demons' in India[2], I was wondering how far we are in Southeast Asia in the understanding and treatment of this fascinating illness.

Epilepsy from its basic definition to investigations and treatment is rapidly changing. Current definition is no more two 'unprovoked seizures' but actually states epilepsy as "One unprovoked (or reflex) seizure and a probability of further seizures similar to the general recurrence risk (at least 60%) after two unprovoked seizures, occurring over the next 10 years"[3]. This change has now implications in treatment of isolated seizures. In the same way, there is now new proposed definition of 'Status Epilepticus' where ILAE has come up with more defined times to start treatment protocols[4].

New classification now proposes differentiation of seizures from focal to generalized. For example, Complex Partial seizure will now be called focal seizure with impaired awareness[5]. This immensely helps in treatment protocols, especially, thinking in lines of surgical treatment and cure. In the same continuum, the scans for evaluation of focal epilepsies have tremendously improved in resolution and localization. CT scans, MRIs with increasing Tesla strength, PET-FDG, i SPECT and MEG. Focal cortical dysplasias that were hardly visible can now be seen with newer and better imaging techniques so that focal epilepsies can be even 'cured'. MRI image averaging of 4 SPGR series (Spoiled gradient recalled acquisition in steady state) can have much higher resolution than 1SPGR series and the dysplasias can more readily be identified. Focal cortical dysplasias therefore can now be better classified and treated. They are classified now as mild MCD, Type I and Type II which are further divided into A and B subtypes. PET technology has improved and several techniques like FDG : Glucose metabolism, H2O : rCBF, [11C]CARFENTANIL: binds to mu-opiate receptors, [11C]DOXEPINE: binds to histamine H1 receptors, [11C]FLUMAZENIL: binds to benzodiazepine site on GABA-A receptor, ALPHA[11C]METHYL-L-TRYPTOPHAN: measures tryptophan metabolism by serotonin and kynurenine pathways. All these techniques have improved localization of the focus ensuring better chances of cure.

Apart from lesional epilepsies, autoimmune epilepsies are now being diagnosed more readily. Anti NMDA, VGKC and Anti GAD and several other cell-surface synaptic antigens antibodies can now be identified and successfully treated [6]. The treatment seems to be successful if the antibodies are identified. Treatment differs from standard treatments as this requires use of immunomodulaters or immunosuppressants. This could include treatment with steroids, intravenous immunoglobulins, plasmapheresis and even Rituximab[6]. Most of these tests are now locally available too.

Antiepileptic medications that were only handful till 1990s are now around 25. Some antiepileptic drugs AED are now targeting difficult epilepsies including Juvenile Myoclonic Epilepsy and Lenox Gastaut Syndrome. The so called third generation AEDs including Rufinamide, Stiripentol, Lacosamide, Eslicarbazepine, Retigabine and Perampanel seems to be slightly more targeted towards difficult to control seizures.

Surgical options continue to get better and more effective. Like all over the world, local experience in Pakistan has been very positive for selective amygdalohippocampectomy[7]. This surgery is useful as it covers most common non-lesional pathology called mesio-temporal sclerosis. We have seen variable success of Vagal nerve stimulation,

however, the new device called Responsive neurostimulator system (RNS) seems to be quite promising and innovative[8].

Hope is that increasing awareness of this common disease in Pakistan will bring better treatments in this country too. This will require more education and awareness about this disease and training more Neurologist to subspecialize in this area.

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