

July-September 2018

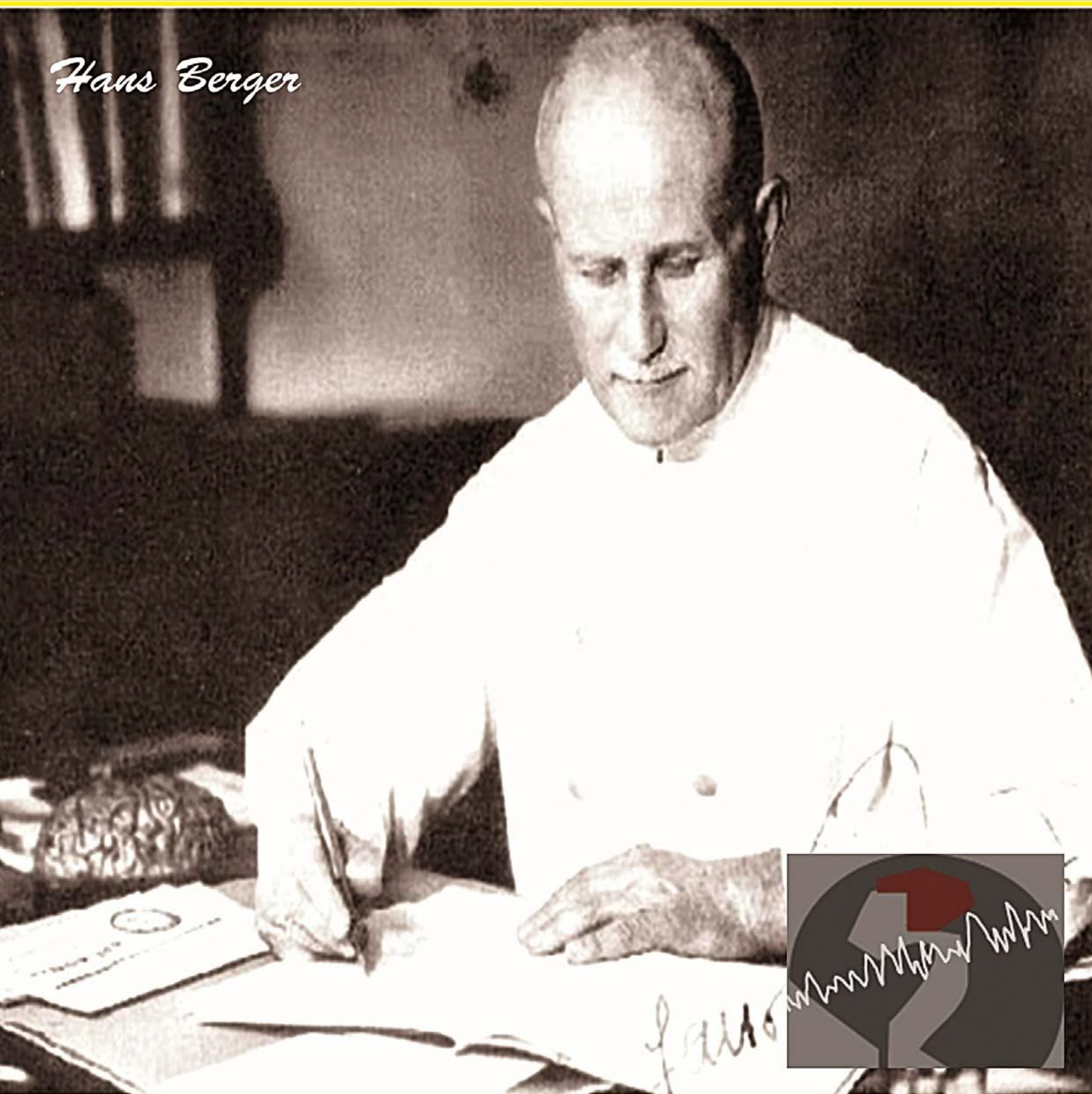
Issue 3, 2018

Epilepsy India



Newsletter of the Indian Epilepsy Association & Indian Epilepsy Society

Hans Berger



Father of Electroencephalogram [EEG]

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Dr. Bindu Menon

Welcome you all to the 3rd issue of Epilepsy India 2018.

We introduce **Sir Hans Berger**, through cover page yet another eminent epileptologist cherished for his novel creation '**The Electroencephalogram [EEG]**'. A brief write up about his solitary journey to achieve this is highlighted on the last page and you will get to know his passion for Electrophysiology.

There has been a global revolution in Epilepsy surgery, which has made a major break through in epilepsy treatment. Thanks to **Ms. Sirisha Jala** who has shared her personal experiences about epilepsy surgery, which will take you beyond the domain of seizure control.



Dr. Sita Jayalakshmi

As we continue to have several social and educational issues that influence persons with epilepsy **Dr. Satish Jain**, our Past President, has shared his experience about the book "**Epilepsy and Law**" and explained its impact on persons with epilepsy in the community.

Many of our chapters - Kochi, Trivandrum, Palakkad have sent their reports on educational epilepsy awareness activities conducted during last quarter and we thank them for reporting these on time.

The joint contribution by - **Dr. Dheeraj** and **Dr. Arun**, for drug corner is appreciated which jointly summarizes the role of "Dexmedetomidine" in intra operative ECoG".



Dr. Chanda Kulkarni

Please go through the announcements on forth-coming epilepsy conferences, as well as the various announcements about funding proposals from IBE, bids for the forth-coming epilepsy conference at various sections across the newsletter.

Here is some good news for IES members! From this issue, we will be mailing soft copies of Epilepsy India newsletter to all IES members, as agreed upon in the Bangalore midterm meeting. This effort is to help to save paper and have a 'GO GREEN' environment

Happy Reading.

HYDERABAD

Reported by : **SIRISHA JALA**

Department of Neurology,
Krishna Institute of Medical Sciences, Hyderabad



Introduction :

The Centers for Disease Control and Prevention (CDC) describe epilepsy as "a common neurological condition characterized by recurrent seizures." Epilepsy can have an adverse impact on everyday life, psychological well-being and feelings of stigma, and can have a slight adverse effect on mental ability. Medications can control seizures well in ~ 70% of people. But in 30% of patients, medicines are not effective and in few of these patients, brain surgery to remove the focus causing epilepsy may be a good option for seizure freedom or even a significant reduction in the disabling seizures. Epilepsy surgery has been an accepted form of treatment for over 50 years. Epilepsy surgery procedures are being done with good success. Surgery can be performed on both children and adults. Over 70% of people who undergo epilepsy surgery become completely seizure free. Interestingly, surgery for epilepsy is advancing continuously with new techniques, new equipment and an increasing number of neurosurgeons embracing it. There is also a steady growth in number of people with epilepsy undergoing this surgery and enjoy a much better quality of life.

Epilepsy surgery not only has the potential to reduce seizure frequency, but also improves health-related quality of life (Wiebe.S 2001). While most patients anticipate that epilepsy surgery will result in seizure elimination, patients also expect fewer medication side effects and other changes including the ability to drive; improved ability to be gainfully employed, to socialize, and to participate in physical activities. (Taylor DC2001, Wheelock I, 1998, Wilson SJ, 1998)

The goal of epilepsy surgery need to go beyond the traditional goal of seizure control and should include aspects within the physical, psychological and social domains (Taylor et al. 2001). The physical domain includes areas such as cognitive dysfunction and use of antiepileptic drugs (AEDs). The psychological domain involves sense of freedom, self-esteem, stigma, anxiety and depression. The social domain is about familial relationships, work/vocational functioning, driving, social adjustment and recreational activities. The importance of knowing the patient's preoperative expectations is clear because these define the patient's ability to deal with planning and changing his/her life (Wilson et al. 1998). Preoperative expectations of the benefits of surgery may influence its perceived success, and in turn, the perceptions of postoperative Quality of life (Flood et al. 1993). According to Taylor et al. (1997), if surgery does yield benefits beyond seizure relief; the scientific importance of such benefits is greatly reduced if they cannot be predicted or measured.

Qualitative long-term studies of patients' experiences of epilepsy surgery are scarce. Among the little literature available, positive experiences dominate; this could possibly be because patients with positive experiences are often more enthusiastic to report. Importantly, patients with positive experiences valued these outcomes of epilepsy surgery many years after surgery. Although most patients have positive impressions, a few also described that the surgery had caused suffering. Among the negative effects of

surgery mentioned, the most common were memory problems and fatigue. Memory impairment is a well-known adverse effect in patients following left temporal lobe resection, although there is surprisingly little relationship between objectively measured and subjectively experienced memory impairment. Fatigue has not been systematically explored in the epilepsy surgery literature but may be interpreted in the frame work of an organic psychiatric disorder.

This is not specific to epilepsy surgery but has been described, for example, after traumatic brain injury and also after subarachnoid hemorrhage. Other authors have focused on emotional lability in the post operative period after epilepsy surgery. However, fatigue is a symptom some patients continue to have long-term post operatively, and which warrants further investigation.

Some patients found it difficult to have a “normal” life despite seizure freedom, leading to identity crises and difficulties adjusting to the new life situation. This is interpreted in the framework of the concept “burden of normality.” Interestingly, patients who obtain seizure freedom later than the 2-year follow-up report an identity crisis at the long-term follow-up only. Patients who considered epilepsy surgery to have been harmful to them may have had complications but may also have had unrealistic expectations about what epilepsy surgery could change in their lives and might therefore relate all shortcomings to adverse effects from surgery. Epilepsy surgery teams may also have unrealistic expectations about what seizure freedom may change in patients’ lives. Only about half of the seizure-free patients achieved important HRQoL improvements, suggesting that seizure freedom does not in and of itself guarantee improved patient well-being. Individualized post operative support from the multi disciplinary epilepsy surgery team could be a valuable way to help the patients reorient themselves and improve their coping. Patients’ long-term subjective experiences of the effects of epilepsy surgery, across different domains of life, need further study to provide epilepsy surgery candidates with realistic counseling, and to consider the need for post operative rehabilitation efforts.

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Epilepsy surgery and EEG Workshop,
Varanasi, 21st-23rd November 2018. By COE Epilepsy -AIIMS Delhi and BHU.
Contact: epilepsycoeconference@gmail.com
for program details, registration and accomodation .

NEW DELHI

Reported by : DR.SATISH JAIN

MD; DM; FRCP

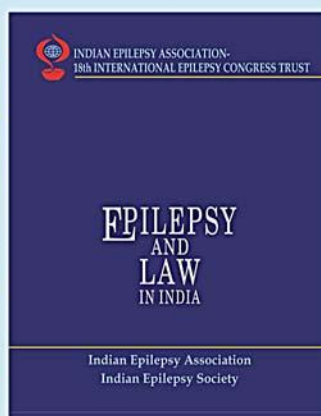
Vice-President of the IEA-18th IEC Trust
Indian Epilepsy Centre



Persons with Epilepsy (PWE) still face issues which seem to thwart their normal life style despite the good advances in medical therapy. While social issues form major part of their impaired life style, they face many legal hurdles making their overall life more difficult than normal individuals.

The Indian Epilepsy Association-18th International Epilepsy Congress Trust (IEA-18thIEC Trust) stands by all measures which can improve the life of PWEs. Apart from active support to areas related to enhancement of knowledge of the members of Indian Epilepsy Association (IEA) and the Indian Epilepsy Society (IES), steps have been taken to improve public knowledge of the subject by active support to seminars, awareness sessions, production of films and audio-visual material. The Guidelines for management of Epilepsy in India (GEMIND) and the Epilepsy Teaching Programme (ETP) were important steps taken to enhance the desired knowledge on epilepsy of medical professionals who may not even be members of IEA/IES.

In one of its recent meeting, the IEA-18thIEC Trust decided to work on compiling a document in regards to the “updated legal issues which seem to undermine the life of PWEs in India”. In a meeting of experts held in New Delhi on March 27, 2016 the available information in regards to various aspects of Epilepsy and Law in India was reviewed. Finally, a small book “Epilepsy and Law in India” was formally released by Sh. Ram Nath Kovind (who was then the Hon’ble Governor of Bihar) during the ECON at Patna in February 2017. Till now almost 7000 copies of the book have been distributed free of cost to doctors, epilepsy patients and their care-givers.



“A mother living in West Bengal wrote to me on June 11, 2018 that her son (who has epilepsy) was able to get 45 minutes extra in each exam for his Class 10 Boards as a result of the “Epilepsy & Law in India” book that I had given to her during her last visit. She being a teacher herself, was so happy that due that extra time he could score 90% overall and 95% in science subjects!! She has expressed her sincere thanks to the IEA- 18th IEC Trust, IES and IEA for bringing out the book. She feels that her son has got a new life!! If he had not got that extra time, he might have ended up scoring average marks and would have lost a chance to start a brilliant academic career ahead!!

Many other parents have expressed similar gratitude for having been helped by the book mainly during the exams of their children having epilepsy. One patient was able to get health insurance that was earlier denied to him.

Any member of the IEA and IES or any other epilepsy care giver who wants copies of the “Epilepsy & Law in India” book can contact me. These will be supplied free of cost and are for free distribution to epilepsy patients and their care givers.



Bangkok, Thailand – June 22-26, 2019



<http://www.internationalepilepsycongress.org/>

Eilatedu 2019 : 8th Eilat International Educational Course:
PHARMACOLOGICAL TREATMENT OF EPILEPSY

Link: <https://www.eilatedu2019.com>

When	Sept 8, 2019 - Sept 13, 2019
Where	Jerusalem, Israel
Submission Deadline	Nov 28, 2018
Notification Due	Mar 31, 2019

CHAPTER ACTIVITIES

KOCHI

Reported By : DR. VINAYAN KP
SECRETARY , IEA KOCHI

KS Mani Memorial Oration and VR Parameswaran Lecture

Indian Epilepsy Association Kochi organized the 7th KS Mani memorial oration along with the 2nd VR Parameswaran Memorial Lecture at Holiday Inn, Cochin on 6th June 2018. Dr. Mathew Abraham, President, IEA Kochi presided over the function. Mr. Ramesh Kini, Treasurer IEA Kochi welcomed the gathering. Dr. Rajendran, National Secretary General, Indian Epilepsy Association introduced the life and mission of the late Mr VR Parameswaran, National GC member of the Indian Epilepsy Association to the audience. VR Parameswaran lecture was delivered by Dr. Urvashi Shah, Consultant Neuropsychologist, KEM Hospital Mumbai. She described about the psychosocial impact of epilepsy and the associated stigma and the need for the timely intervention to improve the quality of life of the Individual patients.

Prof. Anand Kumar gave a glimpse of the illustrious career of the legendary Dr. KS Mani, the father of epileptology in India. Prof. Vinayan KP, National Treasurer, Indian Epilepsy Society and the current secretary of IEA Kochi, introduced KS Mani Orator 2018, Prof. Satish Jain, former president of Indian Epilepsy Association and Indian epilepsy Society to the audience. Prof. Satish Jain gave a detailed description of the new ILAE classification of epilepsies, 2017. As a member of the classification task force, he dealt at length the procedure followed for the development of this new scheme, conceptual basis of the current classification, the key changes from the earlier classification schemes and its potential along with the limitations of the current scheme.

Mrs Saraswathi Rajendran delivered the vote of thanks.



TRIVANDRUM

Organized an Epilepsy camp and Awareness program on May 13, 2017 in S.N.U.P. School, Palakkad. The program was organized under the jointly by IEA Trivandrum Chapter, SCTIMST and Janamaithry Police Club North Police Station, Palakkad. 83 patient with epilepsy participated. Epilepsy awareness program was conducted by the Team. The following persons from the R.Madhavan Nair Centre for Comprehensive Epilepsy Care (RMNC) participated and conducted the program. Dr. Ramsekhar N. Menon Additional Professor, Neurology and RMNC, Dr. Suresh .P.

PDF, RMNC, Dr. Visakh K.V, Senior Resident, Dr. PillaiRejithRemanan, Senior Resident Dr. Jayachandran.D, Senior Scientific Officer and Secretary IEA, Trivandrum Chapter. A Malayalam short film on Epilepsy Awareness – was produced under the leadership of Dr.P.A.MuhammedKunju, a Senior Member Life of IEA Trivandrum and Professor and Head, Pediatric Neurology, SAT Hospital, Trivandrum.



Photographs showing inauguration of the Epilepsy camp

PALAKKAD

EPILEPSY CAMP IN PALAKKAD

An Epilepsy camp and Awareness programme was conducted on 13/05/2017 in Palakkad jointly by RMNC, SCTIMST and Jana Mythri Town North Police Station, Palakkad and N.J. NayarVijayalekshmi Charitable Trust. Dr. Ram Sekhar Menon, Dr. Suresh Kumar, Dr. Vaisakh, Dr. PillaiRejith and Dr. Jayachandran.D examined and counselled 90 person with Epilepsy. An awareness programme and question session was conducted by the team.

TRIVANDRUM

INTERNATIONAL EPILEPSY DAY - 2018 TRIVANDRUM CHAPTER

International Epilepsy day was observed by the Chapter by conducting the following programs A talk on "What you should know about Epilepsy" was broadcasted on 14/02/2018 in All India Radio Trivandrum by the Chapter Secretary (Dr.Jayachandran.D). International Epilepsy day was observed in Sathya Sai Vidhya Mandir, Thonnackal, Attingal, Trivandrum District 114-2018 by conducting an awareness programme for schools students, Teachers and parents of Autism school there. The awareness programme and question answer session was conducted by Dr.Jayachandran.D. A film Mazhavillu about epilepsy was shown to the audience. The programme was presided by the school Principal Mr.Ashok Kumar.



Photo showing Dr. Jayachandran conducting the awareness programme.

INTERNATIONAL EPILEPSY DAY PROGRAMME IN SCTIMST

International Epilepsy Day was celebrated in RMNC, SCTIMST, Trivandrum on 28th February, 2018 which was attended by more than 150 people with epilepsy, their parents, doctors of the institute and various health care providers from the hospital. On the occasion a drawing competition was organized among children with epilepsy on 24th February where 13 children participated. On the concluding ceremony on 28th February prizes were distributed. Distinguished guests Dr. Sriram Venkataraman IAS (Director of employment and Training), Prof. M.D. Nair, Prof. Sanjeev V Thomas graced the occasion. Children with epilepsy performed different cultural programmes on the occasion. Dr. George and Dr. Ajith's delivered speech on epilepsy and public awareness which was of great value for all patient and parents present in the programme. Programme concluded with vote of thanks from Prof. Ashalatha Radhakrishnan.



The photograph showing Shri. Sir. Raman Venkataraman, IAS, Director of Employment and Training inaugurating the programme Professor.M.D.Nair, Senior Professor and Head, Neurology, SCTIMST, Professor Sanjeev Thomas, Head RMNC, Professor Asha Latha Radhakrishnan, Dr. Ram Sekhar Menon and Dr. George Vilanilam

BANGALORE

Reported by : DR. DHEERAJ MASAPU, MD, DM
(Neuroanaesthesia) Associate Consultant

DR ARUN B.G. MD,
Consultant, Department of Anaesthesia
SAKRA World Hospital, Bangalore



Is Dexmedetomidine an ideal agent for electrocorticography? [ECoG] during epilepsy surgery?

Introduction :

Epilepsy surgery is a well-established therapeutic intervention for patients with medically refractory seizures. The success of surgery is highly dependent on the accurate presurgical localization of the epileptogenic zone. Despite advances in noninvasive testing, the use of electrocorticography (ECoG) may still be needed in individuals in whom the noninvasive tests are inconclusive. ECoG is an invasive electrophysiological technique of direct recording of the cortical potentials from the surface of the brain. However, intra-operative ECoG is greatly affected by the anesthetic drugs, which alter the sensitivity and specificity of this technique. The present article is focused on the advantageous effect of **dexmedetomidine** on the intra-operative ECoG over other anesthetics and its pharmacology.

Dexmedetomidine is a potent and highly selective α_2 adrenergic receptor agonist ($\alpha_2:\alpha_1$ of 1620:1) with sedative, amnesic, analgesic and sympatholytic properties. It is a S- enantiomer of medetomidine [(+) -4-(S)-[1-(2,3-dimethylphenyl)ethyl]-1H-imidazole monohydrochloride. Its empirical formula is $C_{13}H_{16}N_2.HCl$. It has PKa of 7.11.

Pharmacokinetics and Pharmacodynamics :

Dexmedetomidine has a rapid distribution phase with a distribution half life of approximately 6 minutes, a terminal elimination half life of approximately 2 hours, and steady state volume of distribution of approximately 118 liters, following its intravenous administration,. The clearance is approximately 39L/h in an adult of about 72 kgs. The drug has average protein binding of 94% and biotransformation is by both direct glucuronidation and cytochrome P450 mediated metabolism. >95% is excreted in the urine and hence the dose reduction needs to be done in patients with hepatic and renal impairment.

Mechanism of action :

Dexmedetomidine is a selective α_2 adrenergic receptor agonist. At very high doses both α_1 and α_2 activity is observed. The sedative and supraspinal analgesic effects are mediated by the hyperpolarization of noradrenergic neurons which suppresses neuronal firing in the locus ceruleus of the brain stem along with inhibition of norepinephrine release in the descending medullospinal noradrenergic pathway by acting on the central α_2 adrenergic receptors. In the spinal cord it activates α_2 adrenergic receptors located on lamina 2 of superficial dorsal horn and by decreasing the release of substance P and glutamate leading to analgesia².

Dosage :

To induce sedation, a loading dose as infusion of 1 μ g/kg i.v. over 10 minutes and maintenance infusion of 0.2-0.7 μ g/kg/h i.v. is used.

Side effects : Hypotension, bradycardia and sinus arrest are the main side effects. Transient hypertension is seen with loading doses.

Technique of recording ECoG : Intra-operative ECoG is performed by the placement of a special electrode array using strips, grid, and/or depth electrodes directly on the surface or within the substance of the brain. The figure illustrates placement of grid electrode on the cortical surface. ECoG is used intra-operatively in epilepsy surgeries to find the exact location of seizure focus as the epileptic area generates epileptiform potentials commonly called as “spikes”.

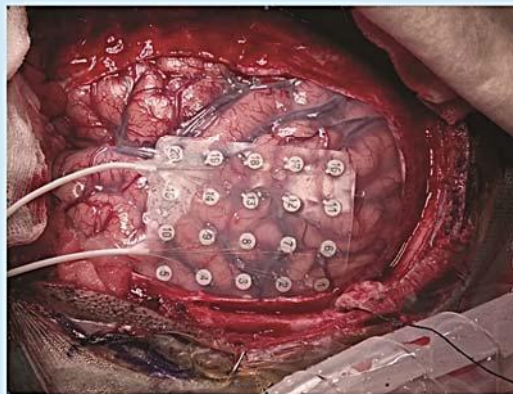


Figure: 1 Grid electrode on the surface of brain

Effect of dexmedetomidine in ECoG v/s other anesthetic medications :

The commonly used anesthetic medications like propofol, thiopentone as well as the inhalational anesthetic medications like sevoflurane, desflurane have variable responses on the epileptic spikes. Some suppress the waves leading to failure of localization of epileptic area and some activate the spikes leading to false localizing, which is even more disastrous. Multiple studies have clearly demonstrated that dexmedetomidine does not affect the epileptic spikes³. The additional advantages of dexmedetomidine are absence of motor-stimulatory effect and no changes in background ECoG activities. The probable reason for the ECoG sparing effect of dexmedetomidine is the mediation of the sedative action through locus ceruleus in the brain stem and no effect on the cortex from where the ECoG is derived.

Conclusion :

Dexmedetomidine has many advantageous over other anesthetic agents in epilepsy surgery since it does not affect the ECoG and also maintains adequate anesthetic depth and hemodynamic stability.

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2. Carollo DS, Nossaman BD, Ramadhyani U. Dexmedetomidine: A review of clinical applications. Curr Opin Anaesthesiol 2008;21:457-61.
3. Bekker AY, Kaufman B, Samir H, Doyle W. The use of dexmedetomidine infusion for awake craniotomy. Anesth Analg 2001; 92:1251-3.

**Swastha Seva Alankaran Award
Indore Chapter for Epilepsy - 2018**



Ms. Neelam Ranade, gets recognition for her active participation in epilepsy camps conducted by Gita Bhawan Hospital through Indore Chapter for Epilepsy. She was conferred - Swastha Seva Alankaran Award, on the World Health Day, 7th April 2018, for services rendered to educate, for offering counseling services and her involvement in distribution of anti-epileptic drugs to persons with epilepsy [PWE] during monthly camps continuously over the last 18 years. Her efforts towards welfare of PWE are commendable.

By -

Dr. Vrushali V. Nadkarni. MD, DM (Neuro)
HOD Department of Neurology, Gita Bhawan Hospital

The Central Office has received Bids from IEA Chennai Chapter for conducting the ECON in February 2020 and from IEA Trivandrum Chapter for the ECON in February 2021. It was decided at the mid term meeting in New Delhi that these chapters will be allotted the said conferences, if no other Chapters come forward before the ECON 2019 in New Delhi. Due consideration will be given to Chapters which have not conducted ECON recently / never had the opportunity to conduct ECON.

Dr Rajendran Balaraman,
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PROMISING STRATEGIES PROGRAM 2018 CALL FOR PROPOSALS

Funding - International Bureau for Epilepsy



PROMISING STRATEGIES

Closing Date: 15th September 2018

One typed page

Contact: Ann Little, Executive Director, International Bureau for Epilepsy,

E: annlittle@ibe-epilepsy.org; W: ibe-epilepsy.org

WHAT DO PEOPLE WITH EPILEPSY AND THEIR CAREGIVERS NEED TO KNOW?

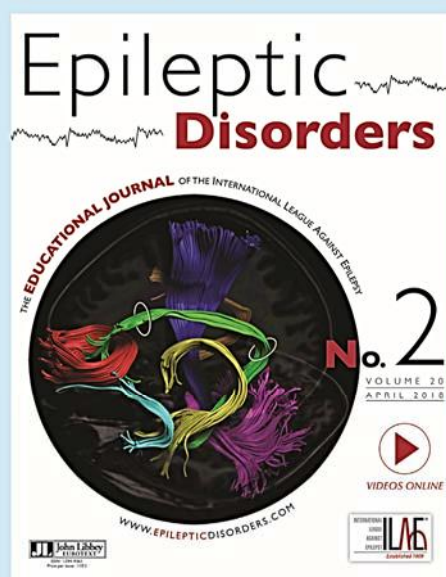


The key scientific and
medical informations

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Find the contents of this issue hereafter:

<http://www.john-libbey-eurotext.fr/fr/revues/medecine/epd/sommaire.md?type=text.html>



Montrouge, 25-04-2018

Martin J. Brodie

You will find below the electronic reprint of your article (pdf format):

The 2017 ILAE classification of seizure types and the epilepsies: what do people with epilepsy and their caregivers need to know?

published in:

Epileptic Disorders, 2018, Volume 20, Numéro 2

John Libbey Eurotext



India's 1st Valproate Chrono Preparation

Encorate

Controlled release Sodium Valproate &
Valproic acid equivalent to Sodium Valproate
200mg, 300mg, 400mg, 500mg, 600mg

Chrono

No wonder, it is
For performance when it counts



Optimize outcomes in patients with sub-optimal
response to first line AEDs

Lobazam

Clobazam 5/10/20mg

Adding therapeutic value to epilepsy treatment

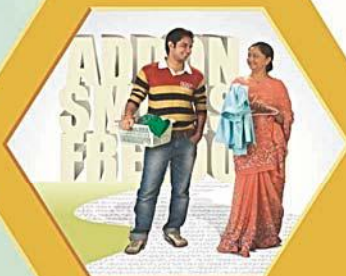


Works in a manner unlike any known AED

Levipil

Levetiracetam 250/500/750 mg / 1 g Tablets
Infusion 100 mg/ml (5 ml) / 100 mg/ml Oral Solution

Life made easier



New emerging AED for partial onset seizures

LACOSSET

Lacosamide 50/100/150/200 mg Tablets

ADDS more seizure control
more freedom
more smiles



ABOUT THE COVER PAGE

Berger later on worked on human EEG constantly and intensely but never disclosed or let any one into secret of his investigation. As quoted by Ginzberg “there can be no doubt but that Berger was the sole creator of electroencephalography and what he achieved, he achieved by his individual effort” (Ginzberg 1949). Berger served as University Rector during 1927. Subsequently returned to the laboratory with high spirits and technical improvements to consistently produce EEG tracings from normal volunteers until he was successful in recording electroencephalograph in 1928.

By 1929, Berger had produced hundreds of EEGs from patients five years after recording his first human EEG and submitted his first research report, “On the Human Electroencephalogram” (Berger 1929).

Over the next decade, Berger focused his research efforts exclusively on this “brain mirror,” publishing a series of 14 original scientific papers on his EEG work. Berger’s characterization of the EEG into alpha and beta components remains central to the clinical and research applications. It is particularly interesting that Berger’s early experimental work “relationship between cerebral blood flow, neural activity, and mental phenomena” has become a cornerstone of modern brain imaging techniques like - positron emission tomography (PET) and functional magnetic resonance imaging (fMRI) which depict neural activity during motor and cognitive tasks by detecting local changes in glucose concentration and blood flow, respectively.

After retiring as Professor and Director of the Psychiatric Clinic at Jena in 1938, Berger’s health deteriorated due to worsening of his congestive heart failure and was constantly plagued by an extremely painful furuncle. He was confined to bed rest and unable to continue either his research or clinical responsibilities. Berger slowly sank deeper into depression, ultimately taking his own life in 1941.

Yet, Berger’s EEG and his cherished project of understanding the relationship between neural events and mental phenomena continues to flourish (Gloor 1994).

1. Hans Berger: From Psychic Energy to the EEG. Millett, David. Perspectives in Biology and Medicine, Volume 44, Number 4, Autumn 2001, pp. 522-542.