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# On the mechanism of antiseizure effect engendered with nucleus dentatus stimulation

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being misdiagnosed as ulnar neuropathy and further having any potential surgical intervention.

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## WCN19-0913

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### Poster Session 4

#### On the mechanism of antiseizure effect engendered with nucleus dentatus stimulation

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Via sodium salt penicillin solution (10.000 IU/ml) application upon posterior right sygmoid gyrus epileptic foci have been created in anaesthetized, myorelaxed and artificially ventilated cats. Electrical stimulations (ES) (0,5 ms, 100-180 mcA duration of trial 3,0-5,0 s) of the left n.dentatus (H = 9,5; L = 8,0; P = -9,0) have been performed.

The early stage of penicillin foci development (first 4,0–7,5 min) was characterized by the absence of first positive potential (FPP). The precipitation of pronounced FPP along with the diminishing of negative component of spike registered in 5–20 s from the moment of ES (100

Hz) cessation delivered in 1,0–2,0 min from the moment of epileptic discharges appearance. In 4 out from 7 cases the complete “reversion” of discharges from negative to positive one has been observed. The similar reversion was achieved via direct application of GABA solution (5,0 mg per 1,0 of 0,9% saline solution) upon zone of epileptic focus. Low frequency (6–9 Hz) ES induced augmenting response in the cortex before penicillin application and was not able to provoke FPP appearance in penicillin induced spikes. Both FPP inductions with high frequency ES and augmenting response with low frequency ES have been abolished with the anode electrolyte destruction of contralateral to stimulated n.dentatus VL thalamic nucleus.

Hence, gained data revealed that penicillin – induced depolarization of upper layers of brain cortex (neuronal dendrites) is blocked with high – frequency (100 Hz) ES of contralateral n.dentatus. The pronounced FPP appearance was registered during poststimulative period which is marker of intracortical GABA-ergic mechanisms activation.

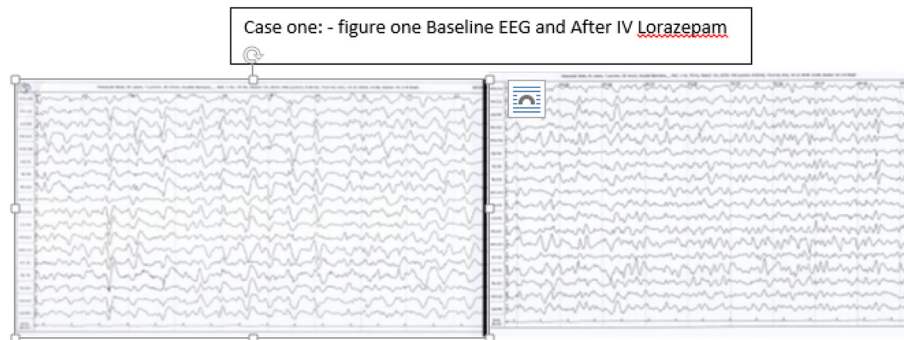
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## WCN19-0933

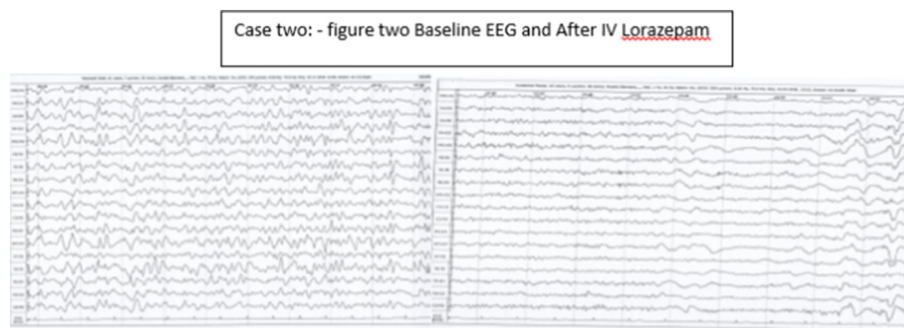
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### Poster Session 4

#### Generalized triphasic waves EEG pattern in autoimmune encephalopathy



Case two, 68-year lady, on treatment for psychosis presented with subacute onset of confusion, seizures and akinetic rigid state. Work up for neuroleptic malignant syndrome and metabolic screen were negative. Her EEG showed GTW (figure 2), which responded to intravenous Lorazepam (figure 2). She improved over weeks with ventilatory support, intravenous methylprednisolone with AED's.



Both AIE patients with GTW were successfully managed with immune modulatory therapy and AEDs. Though Anti thyroid peroxidase antibodies are associated with GTW in AIE, this was negative in our patients. We believe that Benzodiazepine can be used for GTW, which are then responsive to AEDs in AIE patients with GTW(4,5).