



4-AMINOPYRIDINE TOXICITY: STATUS EPILEPTICUS IN A PATIENT WITH MS

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Introduction

4-aminopyridine (4-AP) is a voltage-gated potassium channels selective blocking agent and enhances interneuronal and neuromuscular synaptic transmission. It has been used in many diseases including multiple sclerosis, to manage fatigue and improve motor skills. To date, few reports of intentional or accidental 4AP toxicity are described.

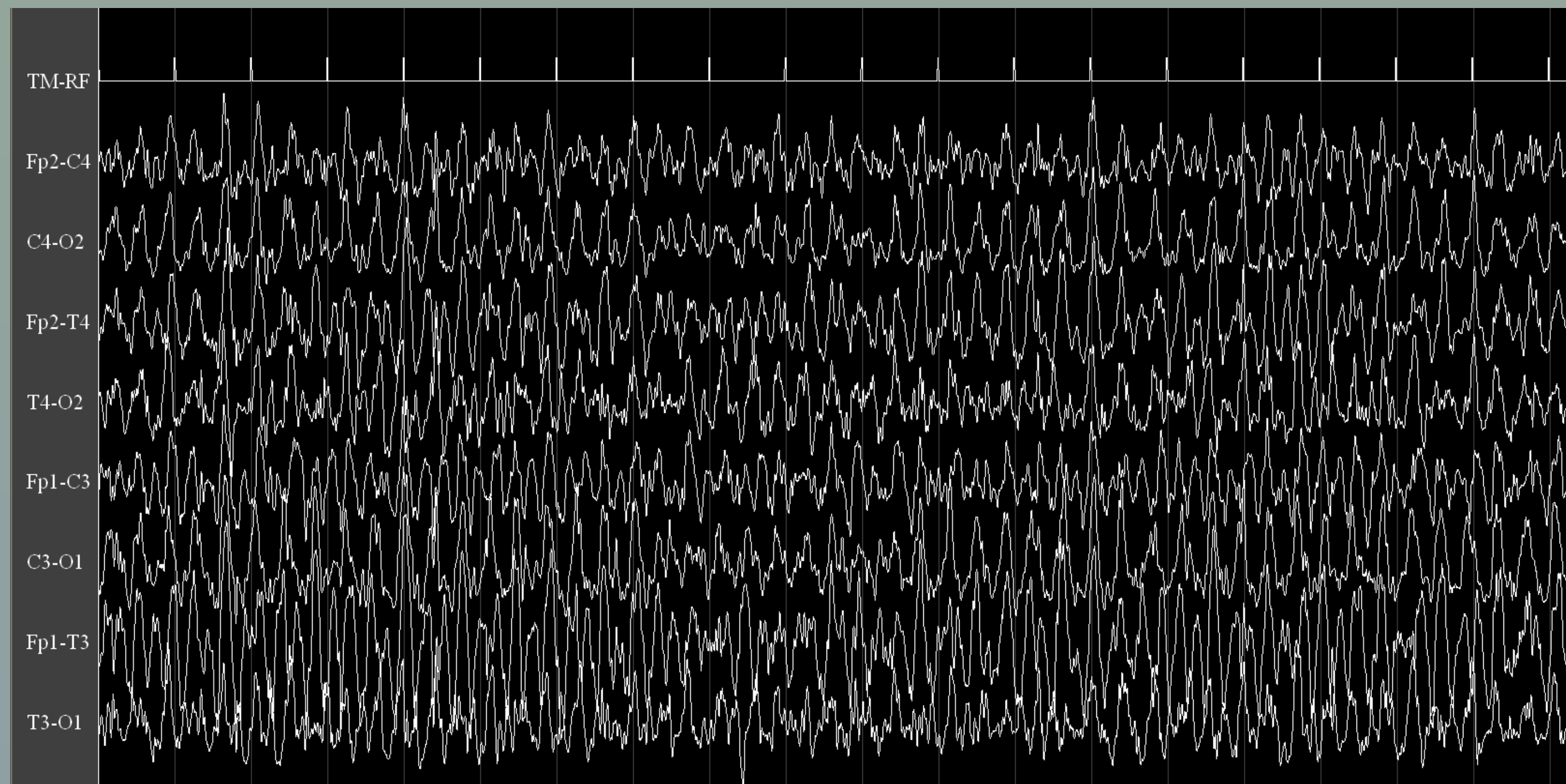


Fig.1: EEG at day 1

Case Report

A 45 year old woman with MS presented with **agitation, epigastric pain, then seizures and status epilepticus** after first therapeutic intake and accidental overdose of galenical 4-AP. Each pill contained from 12 to 100 mg of 4-AP.

She was treated with intubation, ventilation, **benzodiazepines, valproic acid and levetiracetam**, then sedated with **anaesthetic drugs**. After four days she developed a **propofol infusion syndrome** with rhabdomyolysis, disionia, cardiac arrest (torsades de pointes), and acute kidney injure, that needed cardiovascular support and haemodialysis. Then she was treated with **topiramate and phenytoin**. After 13 days, sedation with midazolam was stopped and the patient showed a slow neurological improvement with recovery of consciousness and in few days she was able to perform simple movements. However, she suffered of **critical illness polyneuropathy** and myopathy, that slowed down physiotherapy. After 52 days she was moved from Intensive Care Unit to Pneumological Unit.

After seven months, she was able to walk with a walking frame and she didn't show any cognitive impairment.

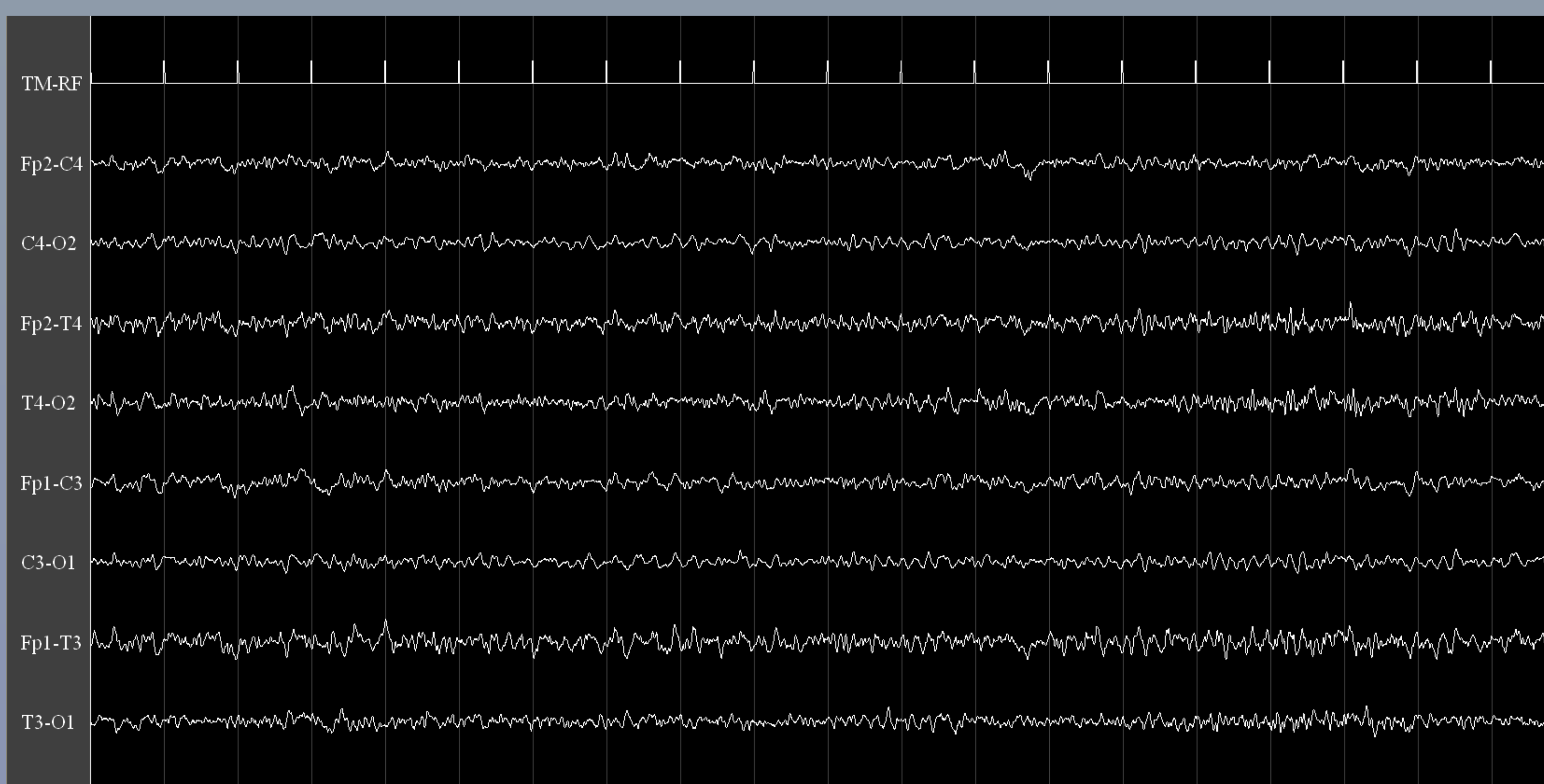


Fig.2: EEG at day 30

Discussion

4-AP toxicity can give many signs and symptoms: diaphoresis, neurological excitability, gastrointestinal effect, and cardiac toxicity. Neurological signs that have been reported are confabulation, agitation, paresthesias, tremor, dizziness, ataxia, extrapyramidal movements and insomnia. Seizures occur commonly and can lead to status epilepticus.

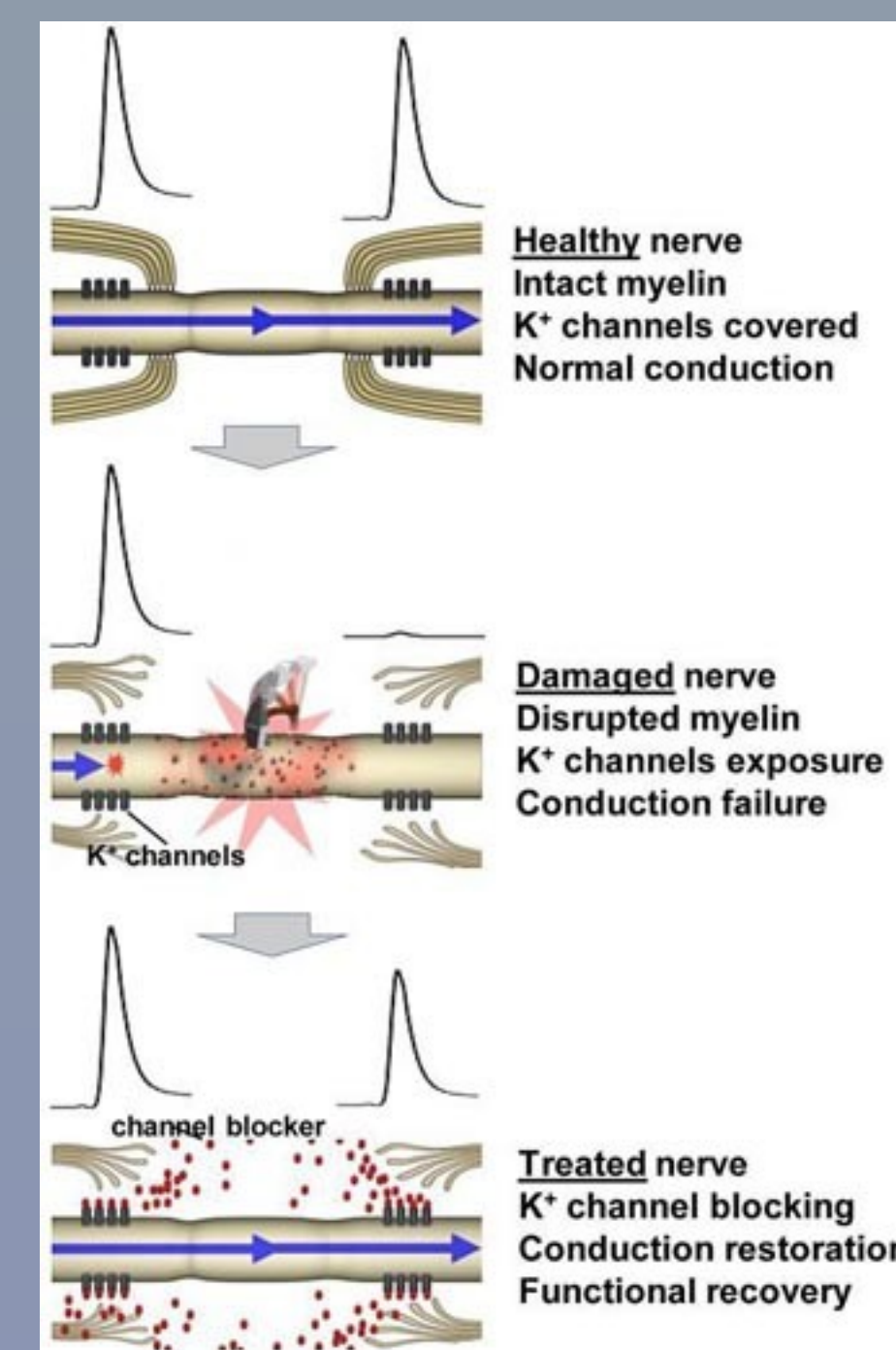


Fig.3: 4-AP is a voltage-gated potassium channels selective blocking agent

Conclusions

This case report shows some serious effects of 4-AP toxicity after accidental overdose and its neurological consequences, considering the fact that 4-AP is a drug used for fatigue in MS.

Bibliography

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