

The anticonvulsant of choice in pyrethroid induced convulsions

Sir,

Seizures following pyrethroid ingestion and its non-responsiveness to anticonvulsants were lamented by Panwar *et al.*^[1] along with literature support. The authors have also stressed that the practitioners shall consider this entity in the differential diagnosis of poisoning with seizures.

We would like to mention some more mechanisms for seizures in pyrethroid poisoning and the anticonvulsant to be used under such circumstances. In epileptic patients, often there will be a focus on aberrant electrical activity in the cortical area; whereas pyrethroid lowers seizure threshold and induces seizure activity from previously normal neurons.^[2] Furthermore, it exerts proconvulsant activity through an interaction with peripheral type benzodiazepine bridging sites.^[3] In an animal model, pre-treatment with phenytoin, an anticonvulsant which binds to activation gates of sodium channels to slow recovery from inactivation, failed to antagonize either the permethrin or deltamethrin proconvulsant action.^[4] Furthermore, aside from being

not effective as observed in this case also, phenytoin may worsen the overall toxicity. Hence, phenobarbitone controls pyrethroid-evoked seizure foci through its dual action such as chloride channel agonist and as a membrane stabilizer.^[5]

As pyrethroid insecticides have come into prominent use in recent years, the incidence of poisoning has increased. Hence, practitioners may be sensitized on the clinical manifestations, course, selection of anticonvulsants and outcome of pyrethroid poisoning, as well as be informed that these cases shall not be considered as simple or taken lightly.

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