

IVERMECTIN POISONING WITH NEUROLOGICAL MANIFESTATIONS IN 10 YEARS OLD GIRL – A CASE REPORT

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ABSTRACT

In developing countries, accidental poisoning is a serious public health problem in children. But unintentional poisoning by parents in the form of medication is very rare. Ivermectin belongs to the group of Avermectins and is used in veterinary medicine and in use for human parasitic diseases. We report the case of 10 years old girl given ivermectin by her mother for an unspecified amount. The patient presented to the hospital with seizures and remained in a coma for five days. The patient was managed symptomatically and discharged home in stable condition with parents' counselling regarding child safety.

KEYWORDS: Ivermectin, Poisoning, Children, Seizures

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INTRODUCTION

Avermectins are a series of 16-membered macrocyclic lactone compounds discovered in 1967. Ivermectin is one of the drugs which belongs to the group of Avermectins.¹ Ivermectin has also been used in the veterinary medical field to treat livestock and pets. Its use in billions of animals has helped boost food and leather production and maintained the health of horses and dogs around the globe.² In 1987, the FDA approved ivermectin in humans to treat onchocerciasis, also called river blindness. Onchocerciasis is caused by *Onchocerca volvulus* and transmitted by blackflies. It is more prevalent in poor populations of Central and West Africa.³ Ivermectin is also used in the treatment of Loa Loa, *Brugia Malayi*, *Wuchereria bancrofti*, *Mansonella ozzardi* and perstans. It is also effective in the eradication of gastrointestinal parasites, including *Enterobius vermicularis* (pinworms), *Ascaris lumbricoides*, *Ancylostoma duodenale*, *Trichuris trichiuria* and *Strongyloides stercoralis*, along with treatment of head lice, scabies, malaria and trypanosomiasis.⁴ We are presenting a case report of one girl resenting from ivermectin

poisoning with neurological manifestation in seizures and coma, who was given ivermectin in a huge dose for worm infestation and one sibling. Another sibling died in a local hospital. The patient was brought to a tertiary care hospital, and after treatment, she was discharged in stable condition. Parents were counselled regarding the use and safekeeping of drugs. Proper consent has been taken from parents for this case report.

CASE REPORT

A 10 years old girl was brought to the paediatric emergency department of Ayub Teaching Hospital, Abbottabad, by Rescue 1122 in a state of seizure and respiratory distress and frothing from the mouth. The patient had a history of taking some veterinary anthelmintic drugs 12 hours before going to Ayub Teaching Hospital. The mother of the patient gave the medicine to two daughters. After a few hours of taking medicine, the condition of both sisters starts deteriorating. Both patients were taken to a local hospital. One sibling died there in a local hospital, while the other sister was referred to a tertiary care hospital. No gastric lavage was done for the patient. As soon as the patient was received in the emergency, the patient was started on supportive treatment, including control of seizures, oxygen therapy, IV fluids and IV antibiotics. Patient vitals were checked, and vitals monitored along with intake/output record documents. Details of medical history, including drug history, were taken. The mother gave both

daughters veterinary medicine ivermectin in an unspecified amount, considering it safe for humans. In history, we could not get any clue about intentional poisoning. The patient was given antiepileptic drugs to control seizures. The patient remained in a coma for five days, and the total duration of admission was 9 days. CT scan brain and laboratory workup were done to rule out other causes, and it was normal. After stabilization, the patient was discharged home with parents' counselling regarding child safety, including drug control.

DISCUSSION

In literature, ivermectin poisoning with serious neurological toxicity has been reported in over 150 cases but rare in children. Toxicity with ivermectin is less, but it occurs with overdosing with no good prognosis. There is no specific antidote for ivermectin poisoning.⁵ Ivermectin has been used in humans in a range of 150 to 200 µg/kg for strongyloidiasis, enterobiasis and onchocerciasis, whereas the dose whereas 400 µg/kg for treatment of lymphatic filariasis.⁶ Ivermectin has also been used as an anticancer drug and has been used in COVID-19 infection in the recent past.^{7,8,9} Though ivermectin generates a low level of toxicity because it is targeted at CNS, it is not recommended to treat young children due to safety concerns.¹⁰ In this case, one younger sibling died of poisoning while the elder sister survived. Baudou E et al. reported a case of 13 years old boy who presented with the neurological manifestation of ivermectin poisoning. The patient was given a single oral dose of ivermectin for scabies. The child got unconscious and recovered in 48 hours.¹¹ While in our case report, the patient was given an unspecified amount of ivermectin and remained in a coma for five days. Parents' counselling is an important aspect in managing a child who presented with unintentional poisoning by parents themselves. One aspect of management is timely patient and emergency management referral at the local hospital.

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