Gamma Benzene Hexachloride Neurotoxicity

Scabies is a common parasitic infestation in all age groups caused by the itch mite, *Sarcoptes scabiei var hominis*. Although application of 1% gamma benzene hexachloride (GBHC) in cream or lotion is an excellent miticite for the treatment of scabies, the vulnerability of small infants to percutaneous absorption of this potentially neurotoxic substance dictates extreme caution in prescribing it for them(1). We wish to report out experience with one such case.

A 1½-year-old male child was admitted in SSKM Hospital, Calcutta with generalized tonic clonic seizures. There was no history of fever, ear discharge, recent vaccination, head injury or convulsive disorders in the family. The patient was treated outside, consecutively for 2-3 days, with topical application of 1% GBHC for skin disease prior to hospitalization.

Physical examination revealed altered sensorium with abnormal movements of all limbs, hypertonia and brisk tendon reflexes. No features of increased intracranial tension were present. Fundus was normal. Cardiovascular and respiratory system showed no abnormality. He had few pustular lesions over the palms, soles, scalp, elbows and buttocks. Typical burrows were absent.

On investigation, his hemogram, blood biochemistry and cerebrospinal fluid (CSF) examination were found to be normal.

Due to lack of facilities for blood level studies of GBHC, it was rather difficult to precisely identify the exact cause of convulsion in this child. However, in absence of pertinent causes like fever, CNS infection, *etc*., could it be due to neurotoxic effect of GBHC which was applied for a pretty long period to the delicate skin of the child as a scabicidal drug? The child was treated with repeat doses of intravenous diazepam. His convulsions were controlled and was eventually discharged in good condition. The child had no recurrence of convulsion and a follow up EEG revealed no abnormality.

A number of ectoparasiticides such as GBHC, benzyl benzoate, crotamiton, sulphur ointment are in use for treatment of scabies. Among different isomers of BHC, the γ isomer is the most toxic. It is lipid soluble and is readily absorbed through the skin even in adults and can cause convulsions. In children, the seizures are of the grand mal type. Nervousness, irritability, insomnia, vertigo, amblyopia, stupor and coma have also been observed. CNS stimulation appears to be due to blockade of the effects of gamma aminobutyric acid (GABA)(2). The drug can sensitize the heart of arrhythmias. One per cent GBHC solution or cream used for the topical treatment of lice and scabies causes no adverse effects after appropriate application. Toxi-city has followed ingestion and overzealous or too frequent application; leaving it on the skin for too long may also cause toxicity(3). It is, therefore, not advocated in infants and pregnant women(4). However, a shorter application time (6-8 hours) is less hazardous for young infants(1). Extreme caution is, therefore, needed while treating infants and young children with GBHC and in such situation it is desirable to use relatively harmless substances such as benzyl benzoate or crotamiton to avoid any untoward complications. Moreover, while prescribing GBHC, patients or parents should be well informed that pruritus, which is due to hypersensitivity to mite antigens

may persist for a number of days even after the mites have been destroyed. There is no need to apply the medicine repeatedly.

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NOTES AND NEWS

IV ANNUAL CONFERENCE IAP HARYANA STATE BRANCH

The IV Annual Conference of Haryana State Branch of IAP is to be held on *19 December, 1993*. The conference will be hosted by the IAP Faridabad Branch at Hotel Delite.

The last date for submission of Scientific Papers with Abstract is 31 October, 1993. It should accompany Registration fee of Rs. 125/- as D/D in name of 'IV Annual Conference FBD Haryana'.

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