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Methyl Alcohol Poisoning

(Experience of an outbreak in Bombay)

BY

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SUMMARY

The clinical experience in the management of 47 patients of methanol poisoning is described. The symptoms with these patients presented were variable and occurred after an initial latent period probably due to the concomitant ingestion of ethanol. Ocular changes were the most characteristic feature of the poisoning seen in as many as 33 patients (70.2%). All the patients had acidosis biochemically and the visual changes correlated with the severity of acidosis. Elevated hematoorit was seen in 35 patients and hypokalaemia in 8 patients. Two patients died before any form of therapy could be instituted. All patients were treated with large doses of alkali and ethanol. Thirty patients recovered completely with this form of therapy. Five patients required additional hemodialysis and one patient showed slight improvement in vision after dialysis. On the whole, 15 patients were left behind with permanent visual loss of varying degree. Prompt recognition of the poisoning with vigorous administration of ethanol and alkali and early haemodialysis in necessary cases can prevent both mortality and morbidity in these patients.

INTRODUCTION

Methyl alcohol is a cheap and potent adulterant of illicit liquors. Many outbreaks of methyl alcohol poisoning have occurred in our country. [1, 4, 9] Such outbreaks have been responsible for a heavy toll of mortality and morbidity. This paper describes our clinical experience in the management of patients with methyl alcohol poisoning emphasizing that early identification and prompt management is of prime importance in these unfortunate patients.

MATERIAL AND METHODS

The outbreak of methanol poisoning described in this paper occurred in a suburban area of Bombay (in a locality between Chembur and Ghatkopar). Most of the patients were admitted to the nearby peripheral hospital, where the killer drink had already taken its heavy toll. Only 47 patients were directed to the K.E.M. Hospital, Bombay. Detailed history was taken from all the patients except two who were critically ill. All the cases were throughly examined with spe-

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cial attention to the eyes. Independent ophthalmic opinion was also taken in all the patients. A sample of blood was drawn for haemogram, plasma bicarbonate levels, serum electrolytes, BUN, serum creatinine, SGOT, SGPT and serum proteins. The urine was tested qualitatively for the presence of methanol and its metabolites. A standard protocol of therapy was followed in all the patients to start with. This was modified later according to individual patient's needs. The protocol consised of I.V. infusion of 7.5% sodium bicarbonate, in a loading dose of 180 meq followed by a maintenance dose of 18 meq/hr. Additionally, 2% absolute alcohol in dextrose was infused at a rate of 9 gm/hr. Massive doses of corticosteroids, Vit. B_1, B_6 and B_{12} were also given to all the patients in consultation with the ophthalmologists. The amount of I.V. sodium bicarbonate and absolute alcohol administered was guided by the clinical condition of the patient and plasma bicarbonate levels.

Despite receiving adequate sodium bicarbonate and ethyl alcohol, five patients showed persistent metabolic acidosis and further deterioration of vision and were taken up for hemodialysis. In these patients, the dose of ethyl alcohol administered was increased in order to compensate for the loss during dialysis. Oral therapy with ethanol (20%) and sodium bicarbonate was continued till the patients recovered completely. Two patients died soon after admission and were autopsied and the results of the chemical analyses were available later on.

RESULTS

Out of the 47 patients admitted, 46 were males and only one was female. Most of them were between 30 and 40 years of age (Table 1).

TABLE 1
Age distribution

Age group (years)	No. of cases
< 20	1
21-30	14
31-40	23
41-50	6
51-60	2
> 60	1
Total:	47

The quantity of the illicit drink consumed was known in all the cases except in one who died soon after admission. It ranged from 100-500 ml (Table 2). The proportion of methanol to ethanol in the drink was not known.

TABLE 2
Amount of illicit drink consumed

Quantity of drink (ml)	No. of cases*
< 100	2
101-200	23
201-300	11
301-400	6
401-500	1
> 500	3
Total	46

* One patient died soon after admission.

The interval between the consumption of the drink and the appearance of symptoms varied between 8 and 60 hours. Majority of the patients had symptoms within 12-24 hours after alcohol consumption. Thirteen patients did not have any symptoms, but had sought admission out of fear. It was interesting to note that all of them had biochemical acidosis and three had definite fundal changes.

The symptoms which prompted the patients to seek medical aid are shown in Table 3.