An outbreak of food poisoning that affected at least ten people in various regions of Japan was traced to exposure to Chinese dumplings contaminated with the organophosphate insecticide Methamidophos (O,S-dimethyl phosphoramidothioate). We experienced the most serious case, a five years old girl, who suffered coma. She presented with features of cholinergic overactivity and her serum cholinesterase activity was 9 U/l. We started intravenous treatment with pralidoxime iodide, atropine sulfate, and midazolam. Her symptoms improved gradually and she was discharged on day 25 without any sequelae. Though poisoning attributed to organophosphate insecticides has become less common in recent years, it is even more important to diagnose the problem rapidly based on the characteristic symptoms and to start specific treatment at the earliest possible stage after poisoning.

Key words: Methamidophos, Organophosphate insecticide, Chinese dumpling

INTRODUCTION

An outbreak of food poisoning that affected at least ten people in various regions of Japan was traced to exposure to Chinese dumplings contaminated with the organophosphate insecticide Methamidophos (O,S-dimethyl phosphoramidothioate). We experienced the most serious case, a five years old girl, who suffered coma.

RESULTS

The incident occurred in January 2008 in a family with one adult and four children after eating Chinese dumplings for dinner. Thirty minutes after dinner, all developed nausea, vomiting, and diarrhea. At the local hospital, the patients were diagnosed with food poisoning and hospitalized with supportive care that included intravenous fluids. The youngest child, a five years old girl, weighing 13 kg experienced respiratory failure and loss of consciousness 4 hr after dinner. She presented with features of cholinergic overactivity (miosis, bronchorrhea, and hypersalivation) and her serum cholinesterase activity was 9 U/l (normal range, 194-467 U/l). The next day, 16 hr after the exposure, she was referred to the acute critical care center at Juntendo University, Urayasu Hospital with suspicion of organophosphate intoxication. On arrival, she was in a coma (Glasgow Coma Scale E1, Vt, M1), her blood pressure was 110/58 mmHg, and her pulse rate was 178/min. Neurological examination revealed bilateral pinpoint pupils, no light reflexes and muscle fasciculation. Because of characteristic signs of organophosphate poisoning, intravenous treatment with pralidoxime iodide (bolus 40 mg/kg, followed by 19 mg/kg/hr for 24 hr), atropine sulfate (0.08 mg/kg/hr), and midazolam (0.24 mg/kg/hr) was started. Her urine tested positive for organophosphate on day 3. Her symptoms improved gradually and she was extubated on day 8. Serum cholinesterase activity recovered to normal levels on day 10. The patient was discharged on day 25 without any sequelae. Though poisoning attributed to organophosphate insecticides has become less common in recent years, it is even more important to diagnose the problem rapidly based on the characteristic symptoms and to start specific treatment at the earliest possible stage after poisoning.

DISCUSSION

Methamidophos contaminated vegetable foods was the most important cause of food poisoning outbreaks in the 1980s and 1990s (Goh et al., 1990; Thomas, 2001). How-
ever, with the introduction of preventive measures to minimize the amount of contaminated vegetables, poisoning attributed to organophosphate insecticides has become less common in recent years. Therefore it is even more important to diagnose the problem rapidly based on the characteristic symptoms and to start specific treatment at the earliest possible stage after poisoning.

REFERENCES