

158 CIVIL MASS INJURY BY A ZINC CHLORIDE SMOKE POT

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Objective: Injuries by screening smokes usually occurred due to accidents or violation of safety precautions in military operations or training sessions. Since the consequences had been severe sometimes (ARDS, fatalities), there are restrictions on the use of classical zinc chloride smoke now. Despite this, unprotected persons may unexpectedly be injured when smoke ammunition is misused. **Case Series:** Twenty-one persons had been injured by zinc chloride aerosol when a former National People's Army smoke pot was blown just for fun at a fairground in Leipzig last September. The smoke pot was placed underneath an electric power supply device of a children's merry-go-round. So the smoke could not quickly be neutralized by water spraying. In addition it took some time to stop and evacuate the merry-go-round. The outer risk zone was assumed up to 20 m downwind, the high risk area 5 m around the smoke pot. Exposition time ranged from one to five minutes. Immediate inhalation therapy with dexamethasone isonicotinate had been started on site in all cases. Four asymptomatic patients of the outer zone were dismissed after primary treatment. One symptomatic patient left the site after initial treatment. Six firefighters developed no symptoms or transient conjunctival irritations only and were treated as outpatients. Nine children were brought to hospital. Three of them showed more pronounced conjunctival and pharyngeotracheal irritations, resolving till the next day. The most affected victim was a woman who was caught by the blast while standing one metre away from the smoke pot. She presented lacrimation, massive cough, and slight bronchospasticity. The respiratory problems ceased soon after treatment with one IV and repeatedly inhaled doses of glucocorticoids. On admission to hospital the predominant symptoms were metallic taste, residual irritation of the pharynx, and considerable conjunctivitis that persisted for several days. Apart from neutrophilia and lymphopenia, laboratory values were normal. Treatment was symptomatic with inhaled and local dexamethasone. Clinical residues regarding the respiratory tract are reported neither in this nor in the other cases. **Conclusions:** Unauthorized use of zinc chloride smoke pots can be dangerous due to the lack of necessary safety precautions. Unprotected persons may be exposed to highly toxic primary smoke particles while being completely unaware of the risks. In the described incident it seems that outdoor conditions with evening humidity had allowed rapid degradation to less toxic secondary smoke. In this way considerable symptoms occurred mainly after exposition against primary smoke nearby the source.