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(Accepted 22 July 1993)

Lesson of the Week

Acute airway obstruction after aspiration of boiling tea from teapot spout

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A child who has sucked hot tea directly from the spout of a teapot should be referred without delay for intubation.

Young children who suck hot tea from the spout of a teapot are at risk of acute airway obstruction, even though their immediate symptoms look mild.

Case report

A three year old boy was referred by his general practitioner to our paediatric ward, having sucked freshly made tea from the spout of a teapot three hours earlier. His mother had given him a cold drink immediately afterwards.

On admission he had a husky voice and was irritable, drooling saliva, and tolerating only sips of fluids and paracetamol syrup. His lips were erythematous, as was his soft palate, which had patches of flaking mucosa. There was no obvious oedema. His pulse rate was 90 beats/min, and he was not tachypnoeic. As initial appearances suggested only superficial burns to the mouth, and as his chest was clear on auscultation, a chest *x* ray examination was not performed.

Two and a half hours after admission he developed a temperature of 38·6°C and a tachycardia of 150 beats/min. His breathing was noisy, and opinions from an anaesthetist and ear, nose, and throat surgeon were sought urgently. He was fully conscious and appeared very quiet and calm. Although the upper airway sounded moist, he had no stridor or indrawing. Pulse oximetry showed an oxygen saturation of 93%, but he did not seem cyanosed. Because of the history of aspiration directly from a spout and the likelihood of imminent loss of the airway, arterial blood gas analysis was not performed because we feared that causing the child to cry could have produced sudden complete loss of the airway. He was instead transferred immediately to theatre, where a 4·0 mm plain orotracheal tube was passed under inhalational general anaesthesia. The epiglottis was grossly oedematous, completely obscuring the larynx, and there were full thickness burns to the soft palate and posterior pharyngeal wall.

A nasogastric tube was also passed, and he was transferred to the intensive care unit spontaneously breathing 30% oxygen via a continuous positive airway pressure circuit. He was sedated with an intravenous infusion of midazolam and given intravenous hydrocortisone and antibiotics. He was fed via the nasogastric tube.

The pharynx showed generalised oedema 24 hours later, but 48 hours after admission direct inspection showed a considerable reduction in inflammation and swelling. White slough was surgically removed from the soft palate, tonsils, and posterior pharyngeal wall. The vocal cords were only mildly erythematous. The trachea was extubated and the child returned to the intensive care unit, where humidified oxygen was continued. Twenty four hours later he was fully conscious and enjoying ice cream with no respiratory or swallowing difficulties. He was discharged five days after admission and followed up by the ear, nose, and throat department.

Comment

Two similar cases of aspiration of boiling tea from a spout have been described.[1,2] Five and a half hours after the aspiration the first child suffered complete respiratory obstruction and cardiac arrest, with subsequent irreparable brain damage. The second child was intubated urgently four and a half hours after aspiration. Both children had first been seen by their general practitioners, and had been prescribed paracetamol syrup and their parents reassured.

Our patient was admitted to the paediatric ward for observation but intubated urgently five and a half hours after the aspiration. There are two important points in the histories of all three children.

Firstly, the hot tea was sucked directly from the spout of the teapot. This directs a jet of water and steam at near boiling temperature on to the epiglottis and posterior pharyngeal wall but spares the lips and tongue, thus giving an outward appearance of only a mild erythematous reaction.

Secondly, although the injury in these cases appeared trivial at first, all three children required urgent intubation within four to five and a half hours after the aspiration. The intubations were made difficult by the presence of an enlarged oedematous epiglottis.

Any child who presents with a history of sucking hot tea from the spout of a teapot should be referred to an acute hospital without delay for assessment and intubation by senior anaesthetic staff.

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BMJ 1993;307:923

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(Accepted 29 April 1993)