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Two cases of thermal burns of the larynx in older men

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ABSTRACT

Cases of thermal burns of the larynx in infants and in patients with mental illness have been reported, but those in older people are rare. We report two cases of thermal burns of the larynx in older people caused by ingestion of microwave-heated food (meat and potato stew or a bean-jam filled bun). Both patients were users of full dentures. Conservative therapy was effective in one patient, while tracheotomy was performed in the other patient at the time of the initial examination. Hot food is expelled from the mouth as a reflective response, preventing thermal burns of the larynx. However, in older individuals, sense perception is impaired and reflexes are slowed. Further, the oral mucosa is protected if full dentures are placed. Therefore, heat is likely to not be perceived and reflexes occur only after the food has reached the larynx, thereby causing thermal burns of the larynx. The number of such cases may increase as the number of older patients rises in the current aging society. Therefore, raising awareness of such cases is important.

1. Introduction

Hot food and beverages often cause thermal burns. The affected area can extend to the larynx, and burns may further progress to laryngeal edema. Therefore, close examination of this situation is necessary. Infants, and men under the influence of alcohol, are at risk. Although food and beverage-related thermal burns are commonly encountered in everyday life, those of the larynx can be fatal. Therefore, definite diagnosis of this condition is crucial.

We report two cases of thermal burns of the larynx caused by ingestion of heated food in older individuals. Important issues of this condition are also discussed by reviewing previous studies.

2. Case report

Case 1: An 81-year-old man visited our hospital with the main complaints of discomfort of the larynx and breathing difficulty. He ingested microwave-heated meat and potato stew at lunch time, which was 3 h before the hospital visit. Discomfort and pain started after drinking water to ease difficulty in swallowing at lunch time. He was first seen at another ear-nose-throat clinic, but was then referred to our hospital. His medical history included hypertension and diabetes. A visual examination found no particular findings in the oropharynx, apart from his use of a full set of dentures because of a lack of remaining teeth. Laryngeal fiberscopy showed bilateral edema in the arytenoid region and pooling of saliva in the hypopharynx, the vocal folds were detectable, and there were no signs of airway constriction (Fig. 1a). The white blood cell count was 9620/mm^3 (neutrophils, 87.3%) and the blood C-reactive protein level was 0.03/mm^3 upon hospitalization. The patient was urgently hospitalized on the same day, and 125 mg methylprednisolone and 600 mg clindamycin were administered for 3 days. Edema was alleviated the next day (Fig. 1b). The patient made a good recovery without worsening of symptoms and was discharged on the 4th day of hospitalization. At 1 week of follow-up, symptoms had decreased and laryngeal outcomes were favorable (Fig. 1c).

Case 2: A 73-year-old man had laryngeal pain immediately after ingesting a microwave-heated bean jam-filled bun. Because the pain gradually worsened and dysphagia occurred

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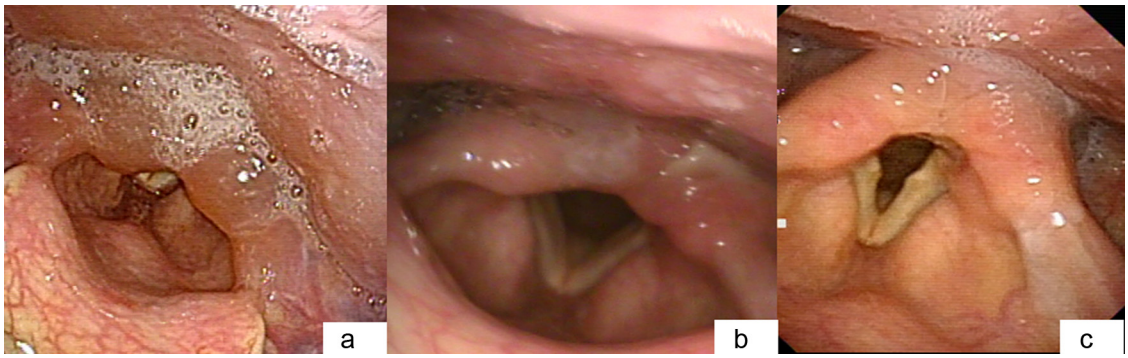

Fig. 1. Case 1: laryngeal fiberscopy findings. Bilateral edema was observed in the arytenoid region at the initial examination (a). White plaques were observed in the arytenoid region, but no particular abnormalities were found in the airway at the time of discharge (b). Regression of white plaques was observed at the follow-up examination (c).

3 h after the initial pain, he visited our outpatient department. His past illnesses included hemiplegia due to cerebral hemorrhage. A visual examination found no particular findings in the oropharynx, apart from his use of full dentures because of a lack of remaining teeth. Laryngeal fiberscopy showed edema on both sides of the arytenoid region, the vestibular fold and the epiglottis, redness, and pooling of saliva. The vocal folds were undetectable because of severe redness at the site and in the surrounding area (Fig. 1a and b). The white blood cell count was 9800/mm^3 (neutrophils, 90.3%) and the blood C-reactive protein level was 0.15/mm^3 upon hospitalization. The patient was urgently hospitalized on the same day to undergo emergency tracheostomy under local anesthesia. He received 1.5 g sulbactam/ampicillin four times daily and 125 mg methylprednisolone for 3 days. The vocal folds were not observed and marked edema was found in the arytenoid region on the 2nd day of hospitalization (Fig. 2c). On the 3rd day of hospitalization, white plaques were found, and the vocal folds were observed (Fig. 2d). Oral intake was started on the 3rd day. On the 7th day of hospitalization, following improvement of the condition of the airway, the tracheotomy stoma was closed (Fig. 2e). On the 11th day, the white plaques had regressed, albeit with mild accumulation of saliva, and consequently, the patient was discharged on the 18th day after hospitalization (Fig. 2f). There were no subjective symptoms and examination findings of the larynx were favorable at follow-up outpatient visits.

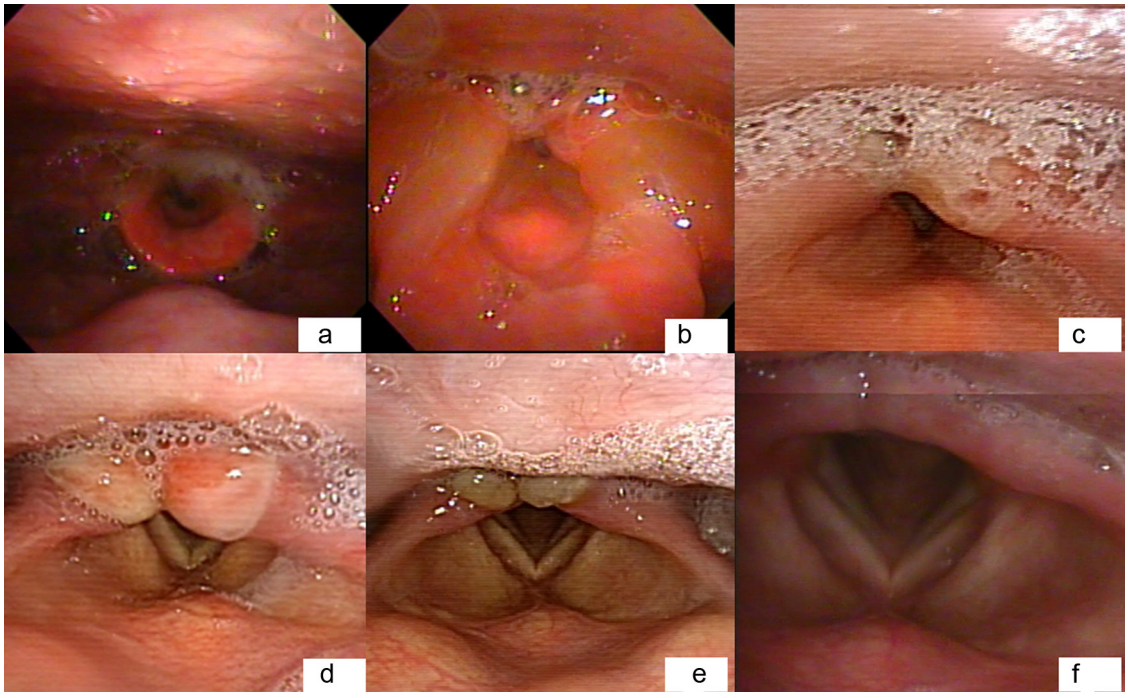

Fig. 2. Case 2: changes in laryngeal fiberscopy findings. Redness was found across the whole area of the larynx, which made observation of the vocal folds difficult at the initial examination (a and b). The vocal folds were visible, but the arytenoid region was swollen on the 2nd day of hospitalization (c). White plaques were observed in the arytenoid region, and the vocal folds were observable on the 3rd day of hospitalization (d). The vocal folds were observable and the opening in the tracheal stoma was closed on the 11th day of hospitalization (e). Regression of white plaques and swelling was observed at the follow-up examination (f). (For interpretation of the references to color in this figure legend, the reader is referred to the web version of the article.)

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