Four adult cases of mumps infection with laryngopharyngeal edema

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ABSTRACT
Mumps is best known as a common childhood viral disease, and is characterized by swelling of the parotid gland. The disease is preventable by vaccine, and mumps vaccination is almost universally used in developed countries nowadays. Swelling of the contralateral parotid gland is the hallmark of mumps, which occurs in 60-70% of infections and 95% patients with symptoms. However, the submandibular and sublingual glands are less commonly affected in about 10% of infections. Laryngopharyngeal edema is a very rarely reported complication of mumps. We present four unusual adult cases of mumps with laryngeal edema. All cases had dyspnea with severe swelling of both the parotid and submandibular glands, and were diagnosed as mumps by serological confirmation. Laryngoscopy revealed edematous changes of the epiglottises and arytenoids. Tracheotomy was needed in one case with bilateral swelling of both salivary glands. An examination by an otolaryngologist is therefore recommended when one encounters a mumps case with combined parotid and submandibular gland swelling.

INTRODUCTION
Mumps is best known as a common childhood viral disease, and is characterized by swelling of the parotid gland. The disease is preventable by vaccine, and mumps vaccination is almost universally used in developed countries nowadays. Swelling of the contralateral parotid gland is common. However, the submandibular and sublingual glands are less commonly affected, and present in most cases as bilateral swelling in conjunction with parotitis. Obstruction of the lymphatic drainage by multiple glandular swelling is thought to lead to rare cases of supraglottic edema. There are only two English-language papers reporting total four cases of mumps related laryngeal edema. We report four adult cases of mumps virus infection with laryngopharyngeal edema.

CASE REPORTS

Case 1:
39-year-old man presented to our hospital after experiencing progressive dyspnea. He complained his left parotid edema and pain for 4 days.

Past history: No history of mumps infection

Laboratory date: AMY1287 IU/L (38-175)

Anti Mumps IgM body (EIA) 4.35 MI (0.00-0.79)

Anti Mumps IgG body (EIA) 11.9 MI (0.01-1.9)

CASE REPORTS

Case 2:
22-year-old woman presented to our hospital after experiencing progressive dyspnea. She complained swelling and pain of her left parotid and submandibular gland for 3 days.

Past history: No history of mumps infection

Laboratory date: AMY453 IU/L (38-175)

Anti Mumps IgM body (EIA) 12.0 MI (0.00-0.79)

Anti Mumps IgG body (EIA) 35.3 MI (0.01-1.9)

Case 3:
29-year-old woman presented to our hospital after experiencing progressive dyspnea. She complained her swelling and pain of her bilateral parotid glands for 4 days.

Past history: Mumps vaccination in childhood

Laboratory date: AMY2080 IU/L (38-175)

Anti Mumps IgM body (EIA) 9.55 MI (0.00-0.79)

Anti Mumps IgG body (EIA) 14.8 MI (0.01-1.9)

Case 4:
31-year-old woman presented to our hospital after experiencing progressive dyspnea. She complained swelling and pain of her left parotid gland for 3 days.

Past history: Mumps vaccination in childhood

Laboratory date: AMY1287 IU/L (38-175)

Anti Mumps IgM body (EIA) 4.35 MI (0.00-0.79)

Anti Mumps IgG body (EIA) 11.9 MI (0.01-1.9)

DISCUSSION
Swelling of unilateral or bilateral parotid gland is the hallmark of mumps, which occurs in 60-70% of infection and 95% patients with symptoms. However, the submandibular and sublingual glands are less commonly affected in about 10% of infections. Laryngopharyngeal edema is a very rarely reported complication of mumps. There are only four cases of mumps related laryngeal edema in two English-language literatures. We report four adult cases of mumps with laryngeal edema. All cases had dyspnea with severe swelling of both the parotid and submandibular glands. Also two of four cases, who were needed a tracheotomy, had bilateral swelling of both glands. As well as them, in our four cases, three cases had unilateral swelling of parotid and submandibular glands, and the other case with bilateral swelling of both glands underwent a tracheotomy. Dyspnea due to the laryngopharyngeal edema may be caused by lymphatic congestion secondary to neck swelling by inflammatory enlargement of salivary glands.

It should be noted that all reported cases with laryngeal edema related mumps were Japanese. In many countries, immunization against mumps is incorporated in the vaccination, and the incidence of mumps declines successfully. In Japan, incorporation into the schedule started 1988, but it was discontinued in 1993 because of unexpected several cases of aseptic meningitis. According to the report from The Ministry for Health, Labor, and Welfare of Japan, the incidence of mumps cases in Japan to be 2.26 million in 2001, as compared to only 226 cases were reported in the USA.

Laryngopharyngeal edema with mumps virus infection is benign and rare, but some cases especially with swelling both parotid and submandibular glands might be needed a tracheotomy. Therefore, when we encounter a patient of mumps with dyspnea, laryngoscopic examination is recommended.

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REFERENCES