**INTRODUCTION**

Acute supraglottitis is a potentially lethal condition which may reach its peak within a few hours of symptom onset and lead to upper airway obstruction. Incidence in adults has not decreased dramatically and today the frequency of supraglottitis in adults is greater than that in children.

Despite the fact that the diagnosis is usually fairly straightforward, data is lacking regarding the optimal management of patients with moderate to severe supraglottitis, who are commonly admitted in the ICU. We retrospectively studied the course of the disease in these patients to try to identify criteria that could guide the management of these patients, and in particular when should airway intervention be performed and when patients could be safely transferred from the ICU to the regular ward.

**METHODS**

A retrospective review of medical records of adult patients admitted with acute bacterial supraglottitis to our department between 2006 and 2011 was conducted. All patients included were confirmed to have supraglottitis by direct visualization of the supraglottic structures. We excluded patients with findings not consistent with bacterial supraglottitis. Data extracted from the medical records include demographics, symptoms, signs, comorbidities, laboratory results, management algorithm and outcome.

72 adult patients admitted to our department with supraglottitis. All patients were examined using fiberoptic laryngoscopy, and 38 patients were determined to have moderate to severe disease and were admitted in the ICU. All patients were treated with antibiotics and corticosteroids. Five patients (13%) required intubation at the time of their admission in the ICU.

Intubation was performed for each of the 5 patients for which it was impossible to visualize the vocal cords. All the patients, after reporting about an improvement in the symptoms did not suffer from a worsening. This improvement persisted until their release from the ward. After a withdrawal of the swelling was observed with fiberoptic laryngoscopy, there was no regression at all. We observed in all patients that improvement of the condition or after a gradual but constant rate of worsening in the intensity of the symptoms, a peak is reached after which a steady improvement begins without relapses until full recovery.

We observed in all patients that improvement of the observed parameters was not followed by relapse. This was found to be the case for both subjective as well as for objective parameters. In addition, patients who underwent extubation did not require re-intubation, and not one of the patients who were transferred to the ward was returned for monitoring in the ICU.

From these results we may conclude that the natural history of this disease, with treatment, is of constant deterioration until it reaches a peak. From that point a gradual yet continuous improvement without repeated deterioration is expected.

**CONCLUSIONS**

We suggest that the beginning of airway improvement could be considered as a sufficient criterion for the safe transfer of patients to the regular ward.