

## An unusual pattern of intubation injury?

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### Abstract

Post-intubation laryngeal dysfunction is well documented. Both common and rare patterns of injury have been described in the literature. An unusual pattern of intubation injury is described in this case report. The different patterns of post-intubation laryngeal injury are discussed as well as the possible aetiology in the case described.

**Key words:** Intubation; Larynx; Wounds, Non-penetrating

### Introduction

Post-intubation laryngeal dysfunction is well documented. Common patterns of injury include vocal fold granuloma, laryngeal nerve paresis and ulceration of the cricoarytenoid region.<sup>1</sup> Less common patterns of injury include arytenoid subluxation, vocal fold tears and dislocation of the crico-arytenoid joint.

### Case report

A two-year-old boy presented to the paediatric ENT clinic at the Royal Manchester Children's Hospital with dysphonia. The patient was born at 28 weeks gestation and required endotracheal intubation on the special care baby unit for 18 days. Following extubation he made an uncomplicated recovery. With the development of speech it was noted that his voice was permanently hoarse and was made dramatically worse by upper respiratory tract infections. Physical examination revealed no evidence of stridor and the patient displayed a good cough.

Subsequently the patient underwent elective direct laryngotracheobronchoscopy using a Storz laryngoscope and a 4 mm 0° Hopkins Rod. This revealed the middle third of the right vocal fold to be absent (Figure 1).

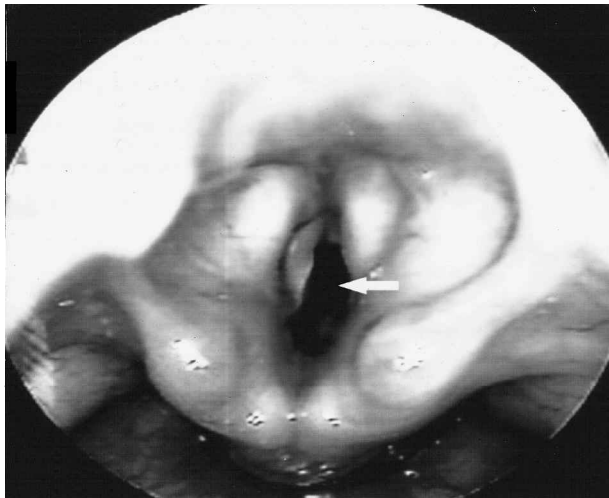


FIG. 1

Endoscopic view of the larynx. The white arrow indicates the absent middle third of the right vocal fold.

### Discussion

Laryngeal injury following endotracheal intubation is well recognized. Studies show the types of laryngeal injury range from mild mucosal erythema to sub-epithelial haematoma, ulceration, granuloma formation<sup>2</sup> and pressure paralysis of the recurrent laryngeal nerve. Such injuries can resolve spontaneously in cases involving short periods of intubation. Less common acute events have been described including partial vocal fold avulsion<sup>3</sup> and arytenoid subluxation. These injuries will not resolve without surgical intervention. Prolonged intubation may lead to late injuries such as perichondritis, cartilage necrosis and stricture formation.

In our case, the middle third of the right vocal fold was completely absent with a sharp line of demarcation. Such a pattern of injury does not appear to have been described in the literature before. As a child was intubated for 18 days it is difficult to say whether it was caused by an acute or chronic pattern of injury. The only other question to debate is whether or not the vocal fold abnormality represents a congenital malformation rather than an acquired intubation injury. If it is a congenital malformation, it does not appear to have been described before.

In terms of treating this patient, a vocal fold augmentation procedure may improve his glottic insufficiency.

### References

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