ACQUIRED AIRWAY PATHOLOGY RELATED TO INVASIVE VENTILATION IN THE INTENSIVE CARE NEONATE: A 5-YEAR RETROSPECTIVE REVIEW

Jaime Doody, (1,2), Robert Joyce, (3) David Greaney (4), Martina Healy (4) John Russell (2)
Royal College of Surgeons in Ireland, Dublin, Ireland
Department of Otolaryngology, Our Lady’s Children’s Hospital, Crumlin, Dublin, Ireland
Department of Neonatal Medicine, Coombe Women & Infants University Hospital, Dublin, Ireland
Department of Anaesthesia & Critical Care Medicine, Our Lady’s Children’s Hospital, Crumlin, Dublin, Ireland

Abstract

Objective: To analyze the cohort of pediatric intensive care unit (ICU) patients that underwent prolonged invasive ventilation.

Methods: A retrospective chart review was performed of all patients admitted to the ICU over a 5-year period. Patients originating from our sister maternity hospital were then identified and their neonatal records reviewed.

Results: Records from 5130 ICU admissions were examined. 9 patients had pathology attributable to invasive ventilation and originated in our affiliated maternity hospital, 4 with acquired subglottic stenosis (SGS) and 5 with laryngeal granuloma (LG).

Introduction

• Prolonged ventilation causes laryngeal pathology and is the leading cause of acquired SGS [1].
• In the last 20 years there has been a downward trend in endotracheal tube (ETT) associated pathology such as SGS [2]. This has been attributed to a better understanding of the pathophysiology of acquired SGS and the more judicial use and improved management of ETTS.
• The objective of this study is to examine our cohort of prolonged ventilation patients and analyze their data.

Methods and Materials

• The medical records of all patients admitted to our ICU between January 2012 and January 2017 were reviewed.
• Patients that had pathology associated with prolonged ventilation were identified and their neonatal records in our sister maternity hospital were analyzed.

Results

• 5130 records of ICU admissions were examined.
• 3361 patients were invasively ventilated.
• 9 patients with tube acquired pathology came from our sister maternity unit (4 with SGS, 5 with LG).
• 6 were intubated at birth due to respiratory distress of which 5 were premature.
• Prior to a diagnosis of laryngeal pathology, these 6 neonates were intubated successfully an average 7 times each, with an average of 11.5 attempts.

Discussion

• Our experience parallels the downward global trend in endotracheal tube associated laryngeal pathology.
• There was a disproportionate number of intubation attempts in this small cohort.
• The more senior the intubating physician, the greater the chance of a successful intubation.

Conclusions

• The incidence of tube related laryngeal disease is decreasing as our understanding of the pathogenesis of endotracheal tube associated pathology increases.
• It may be that lesions associated with endotracheal intubation correlate better with number of intubations rather than duration of intubation.

References