

Cisapride decreases gastric content aspiration in mechanically ventilated patients

ABSTRACT

Our results suggest that aspiration of gastric contents exists even in patients who are kept in a semirecumbent position. Moreover, cisapride decreases the amount of gastric contents aspiration in intubated and mechanically ventilated patients and may play a role in the prevention of ventilator associated pneumonia. Cisapride, even with the patient in the semirecumbent position, did not completely prevent gastric content aspiration.

INTRODUCTION

Introduction The aspiration of gastric contents induces or exacerbates bronchoconstriction and it is the most commonly recognized pathogenic factor for the development of pneumonia, especially in ventilator-associated pneumonia (VAP). The incidence of aspiration of gastric contents is high in intensive care unit (ICU) patients and even higher in intubated and mechanically ventilated patients. Gastrointestinal tract dysmotility is a relatively common condition in critically ill patients and is associated with gastric contents aspiration. Additional risk factors for gastric content aspiration included enteral feeding, naso or oral-gastric tubes and position of the patients. Enteral feeding via a nasogastric tube may also result in increased gastric volume, reflux and Gram-negative bacterial overgrowth in the stomach. Wide bore nasogastric tubes themselves probably impair the function of the lower esophageal sphincter, thereby facilitating aspiration and bacterial contamination of the tracheobronchial tree. Moreover, an important risk factor in causing the aspiration of gastric contents seems to be the supine position. A semirecumbent position of mechanically ventilated patients could help in part to prevent the aspiration of gastric contents into airways, but aspiration still remains a problem. Orozco-Levi and colleagues showed a significant increase in radioactivity count in oropharyn-geal contents after Tc99m isotope instillation through nasogastric tube. This gastroesophageal reflux was irrespective of body position. In contrast, the radioactivity count values in bronchial secretions were higher in the supine position than in semirecumbency, which suggests that the semirecumbent position helps prevent in part gastric content aspiration. Apart from position, agents, such as erythromycin and cisapride, increase the gastric motility and they could accelerate gastric emptying and prevent gastric aspiration. Cisapride is a very effective prokinetic agent that acts by increasing the physiological release of acetylcholine from the postganglionic nerve endings of the myenteric plexus without any associated dopamine antagonism. In this study, we assessed the effect of cisapride in the prevention of pulmonary aspiration of gastric contents in mechanically ventilated patients maintaining the benefit of a semirecumbent position.

CONCLUSION

In summary, our results suggest that cisapride decreases the risk of aspiration of gastric contents in intubated and mechanically ventilated patients who are kept in a semirecumbent position. Conventional protective methods though, such as the semirecumbent position and regular checking of cuff leaking, even with cisapride administration are not sufficient to prevent gastric content aspiration completely. Further studies are needed to establish if this drug helps in the prevention of ventilator associated

pneumonia, bronchitis or bronchoconstriction.