# Prophylaxis against acid aspiration in regional anesthesia for elective Cesarean section: a comparison between oral single-dose ranitidine, famotidine and omeprazole assessed with fiberoptic gastr aspiration.

陳大樑

Lin CJ;Huang CL;Hsu HW and Chen TL

## 摘要

## Abstract

BACKGROUND: Acid aspiration syndrome is still an important cause which contributes to maternal mortality in obstetric anesthesia. In this study, we compared famotidine, ranitidine, omeprazole with placebo for prophylaxis against aspiration pneumonitis in elective Cesarean section under regional anesthesia. METHODS: One hundred and sixty patients undergoing elective Cesarean section under spinal anesthesia were allocated randomly into four groups: Group P (n = 40) received placebo only; Group F (n = 40) received famotidine 40 mg Group R (n = 40) received ranitidine 300 mg; and Group O (n = 40) received omeprazole 40 mg. All drugs were given orally at least three hours before the patients entering the operating room. Gastric content was directly aspirated and measured respectively with a flexible fiberoscope under visualization and by a pH meter after delivery. RESULTS: Although these three drugs (F, R, and O) were all effective in controlling the secretion of gastric acid, from gastric analysis it was demonstrated that famotidine and ranitidine could be more defective to neutralize acidity than omeprazole ($p < 0.05$). Percentages of patients with pH < or = 2.5 in Groups P, F, R, and O were respectively 88%, 10%, 8%, and 21%, showing that the innate pH of gastric juice was far lower than expected. Patients receiving omeprazole in single oral dose regimen retained a greater gastric volume (> or = 0.4 ml/kg) than those who received famotidine or ranitidine ($p < 0.005$). From the criteria defining the patients "at risk" (pH < or = 2.5

and gastric volume > or = 0.4 ml/kg), it is speculated that all these three regimens could potentially reduce the incidence of patients with calculated risk.
CONCLUSIONS: Our data demonstrated that parturients under regional anesthesia were at a higher risk of aspiration pneumonitis than generally thought. Single dose of ranitidine or famotidine administered orally three hours before surgery provided a more effective means to control and neutralize gastric secretion than omeprazole in parturients.