

# Prognostic factors and antibiotics in *Vibrio*

## *vulnificus* septicemia

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摘要

### Abstract

**BACKGROUND:** Immunocompromised patients with *Vibrio vulnificus* septicemia are at high risk for fatality. When a hemorrhagic bullous necrotic cutaneous lesion (HBNCL) and decreased blood pressure develop, approximately 50% of *V vulnificus* septicemic patients die within 48 hours. This study aimed to evaluate the risk factor(s) for fatality among patients with *V vulnificus* septicemia, emphasizing the role of prescribed antimicrobial agents in general and the therapeutic efficacy of the combination of a third-generation cephalosporin and tetracycline or its analogue in particular. **METHODS:** Patients with the diagnosis of *V vulnificus* infection admitted to 5 large medical centers in Taiwan between 1995 and 2003 were included in this retrospective study. Patients were divided into 2 groups: those without [corrected] HBNCLs (group 1) [corrected] and those with [corrected] HBNCLs (group 2) [corrected]. Patients were further divided into subgroups with [corrected] fatalities (fatal subgroup) and those without fatalities (nonfatal subgroup). **RESULTS:** A total of 93 patients participated in the study. In group 1, the fatal subgroup had higher Acute Physiology and Chronic Health Evaluation II (APACHE II) scores ( $P = .006$ ) and a higher proportion of shock at arrival at the medical center ( $P = .015$ ) than the nonfatal subgroup. In group 2, the effect of a first- or second-generation cephalosporin plus an aminoglycoside was negative ( $P = .01$ ) and that of combined third-generation cephalosporin and tetracycline or its analogue was positive ( $P < .001$ ); significant differences were found between the fatal and nonfatal subgroups in the APACHE II score ( $P < .001$ ), number who were in shock at arrival at the medical center ( $P = .02$ ), delayed surgical intervention ( $P = .03$ ), and peripheral leukocytosis ( $P = .03$ ). Shock at arrival at the medical center (odds ratio [OR], 19.25; 95% confidence interval [CI], 1.768-209.54;  $P = .02$ ) was an independent risk factor for fatality in patients without HBNCLs. Use of a third-generation cephalosporin and tetracycline or its analogue significantly reduced fatality rates in patients with HBNCLs (OR, 0.037; 95% CI, 0.007-0.192;  $P < .001$ ). **CONCLUSION:** Septic shock is a determinant of fatality in patients with *V vulnificus* septicemia without HBNCLs; our data suggest that the combination of a third-generation cephalosporin and tetracycline or its analogue may be a better choice in antimicrobial treatment of *V vulnificus* septicemic patients with HBNCLs