The association between blood alcohol level and infectious complications among burn patients.

Abstract

Approximately 50% of fatal and 15% of nonfatal burn-injured patients have detectable blood alcohol content (BAC) at the time of admission, and it is hypothesized that alcohol exacerbates burn-related immunosuppression. The purpose of this study was to evaluate the association between BAC and infectious complications in burn patients. The study population consisted of 1161 burn patients admitted to a large academic burn center between January 1998 and June 2007. Patients were categorized into no BAC (0.0 g/100 ml), low/moderate BAC (>0.0 and <0.1 g/100 ml) and high BAC (≥0.1 g/100 ml) groups based on BAC at time of admission. Risk ratios (RRs) and 95% confidence intervals (CIs) were calculated for associations between pneumonia, sepsis, urinary tract infection, line infection, and wound infection and BAC, adjusted for total burn surface area and inhalation injury. Relative to no BAC patients, both low/moderate and high BAC patients had nonsignificantly increased risk for most infectious complications. High BAC patients were at significantly increased risk for any infectious complication (RR 2.06, CI 1.25-3.41) and pneumonia (RR 2.06, CI 1.04-4.09) and a nonsignificantly increased risk of urinary tract infection (RR 2.12, CI 0.94-4.78). Results suggest that preinjury alcohol consumption places patients at an increased risk for infectious complications, most notably pneumonia. Further studies examining the relationship between alcohol and pneumonia among burn patients will help elucidate the reason for the increased risk observed in the current study and suggest ways to prevent infection for this particular subgroup of burn patients.