CHOLANGITIS: ANALYSIS OF ADMISSION PROGNOSTIC INDICATORS AND OUTCOME

Background: Acute cholangitis is a life-threatening complication of biliary obstruction which is exacerbated by delays in diagnosis and treatment. The use of effective antibiotics, combined with endoscopic retrograde cholangiography (ERC) with sphincterotomy, has resulted in significant improvements in morbidity and mortality over traditional surgical decompression. Since the introduction of ERC, few studies have addressed admission prognostic indicators for adverse outcome. Purpose: The purpose of this study is to analyze outcome and identify admission factors predictive of major complications and mortality in acute cholangitis. Methods: A retrospective review of all patients with a discharge diagnosis of acute cholangitis from 1995 to 2005 was performed. Patient variables including past medical history, presenting complaints, physical findings, vital signs, initial laboratory values, timing of antibiotics, and findings on ERC were recorded. Primary endpoints were organ failure and death. Statistical analysis was performed using univariate and multivariate logistic regression models. Results: One hundred seventeen patients met criteria for acute cholangitis. The median age was 53 years, 62% were female, and 68% were Hispanic. Only 48 (41%) had Charcot’s triad and 3 (3%) had Reynold’s pentad. Blood cultures were positive in 87 (74%). One-hundred four (89%) patients underwent biliary decompression including ERC in 79 (76%), surgical decompression in 15 (14%), and trans-hepatic drainage in 10 (10%). There were 24 (21%) cases of organ failure and 9 (8%) deaths. On univariate analysis, timing of antibiotic administration, timing of ERC, history of renal insufficiency, history of cardiac disease, altered mental status, admission systolic blood pressure, temperature, albumin, creatinine, total bilirubin, and white blood cell count (WBC) were associated with an adverse outcome. On multivariate analysis of admission variables, only the admission WBC (OR=1.3, p=0.0003) was significant. When further stratifying admission WBC to a value greater than 20,000, the sensitivity, specificity, (+) and (-) predictive values were 50%, 92%, 63%, and 88%, respectively. Conclusion: Acute cholangitis remains a disease associated with significant major morbidity and mortality. Less than one-half present with Charcot’s triad. The white blood cell count is the most significant admission predictor of organ failure and death. Admission WBC ≥ 20,000 is a highly selective predictor of adverse outcome.