Appropriateness of antibiotic treatment in intravenous drug users, a retrospective analysis

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BACKGROUND: Infectious disease is often the reason for intravenous drug users being seen in a clinical setting. The objective of this study was to evaluate the appropriateness of treatment and outcomes for this patient population in a hospital setting. METHODS: Retrospective study of all intravenous drug users hospitalized for treatment of infectious diseases and seen by infectious diseases specialists 1/2001-12/2006 at a university hospital. Treatment was administered according to guidelines when possible or to alternative treatment program in case of patients for whom adherence to standard protocols was not possible. Outcomes were defined with respect to appropriateness of treatment, hospital readmission, relapse and mortality rates. For statistical analysis adjustment for multiple hospitalizations of individual patients was made by using a generalized estimating equation. RESULTS: The total number of hospitalizations for infectious diseases was 344 among 216 intravenous drug users. Skin and soft tissue infections (n = 129, 37.5% of hospitalizations), pneumonia (n = 75, 21.8%) and endocarditis (n = 54, 15.7%) were most prevalent. Multiple infections were present in 25%. Treatment was according to standard guidelines for 78.5%, according to an alternative recommended program for 11.3%, and not according to guidelines or by the infectious diseases specialist advice for 10.2% of hospitalizations. Psychiatric disorders had a significant negative impact on compliance (compliance problems in 19.8% of hospitalizations) in multiple logistic regression analysis (OR = 2.4, CI 1.1-5.1, p = 0.03). The overall readmission rate and relapse rate within 30 days was 13.7% and 3.8%, respectively. Both non-compliant patient behavior (OR = 3.7, CI 1.3-10.8, p = 0.02) and non-adherence to treatment guidelines (OR = 3.3, CI 1.1-9.7, p = 0.03) were associated with a significant increase in the relapse rate in univariate analysis. In 590 person-years of follow-up, 24.6% of the patients died: 6.4% died during hospitalization (1.2% infection-related) and 13.6% of patients died after discharge. CONCLUSION: Appropriate antibiotic therapy according to standard guidelines in hospitalized intravenous drug users is generally practicable and successful. In a minority alternative treatments may be indicated, although associated with a higher risk of relapse.
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