

# Cocaine Use and Risk of Death in Sickle Cell Patients Who Frequently Use the Emergency Department

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**Background:** Patients with sickle cell disease have been shown to be at high risk for being frequent emergency department (ED) users. Cocaine is known to cause a variety of pulmonary complications, and its use may be particularly harmful in patients with sickle cell disease.

**Objective:** To compare sickle cell patients who frequently use the ED and those who infrequently use the ED with regard to cocaine use and risk of death.

**Methods:** We conducted, at an urban Level 1 trauma center and teaching hospital, a retrospective, cross sectional and cohort study of patients who presented to the ED between 2001 and 2006 with "Sickle Cell Disease with Crisis" (ICD9 Code 282.62).

**Results:** We identified 83 sickle cell patients who made 680 visits to the ED for sickle cell pain. Twenty (24%) were defined as ED frequent users (FUs, >4 visits in any study year) and 63 (76%) as non-frequent users (NFUs). Of the FUs, 12 (60%) vs. 11 (17%) of the NFUs reported using cocaine (RR=3.4; 95% CI 1.8-6.6). Overall, 10 patients died during the study period, six (30%) of the FUs and four (6%) of the NFUs (RR=4.73; 1.5-15.1). Stratifying for frequent use, cocaine use appeared to compound the risk of death among frequent users. Five of 12 (41.7%) FUs who used cocaine died. However, with the small sample size, this interaction was not statistically significant.

**Conclusions:** Patients with sickle cell disease who frequently present to the ED in painful crisis are much more likely to use cocaine and are at higher risk of death than sickle cell patients who infrequently use the ED. Such patients warrant aggressive interventions.