Comparison of nine and six-hour emergency department based chest pain center treatment strategies for patients at low to moderate risk for acute coronary syndrome

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We compared the outcomes of patients enrolled in a nine and six-hour emergency department (ED) based chest pain center (CPC) treatment protocol. We hypothesized that the use of a shorter 6-hour protocol would not increase hospital admissions or complications. Such a strategy would potentially decrease costs and increase patient satisfaction. All patients with a chief complaint of chest pain who were greater than 25 years old, or with cocaine usage within 96 hours of initial presentation, were eligible for enrollment. Exclusion criteria included acute ST-segment elevation or depression >1mm in 2 contiguous leads, history of CAD, hemodynamic instability, or clinical syndromes consistent with unstable angina. Measured outcomes included ED disposition and cardiac events at 30 days (defined as MI, PTCA, CABG, VT/VF arrest, CHF admission or cardiac related death). The 9-hour protocol (October 1991 - December 1997) included 2133 patients; the 6-hour protocol (January 1998 - August 1998) included 184 patients. The 9-hour protocol consisted of ST segment monitoring, serial CK-MB draws at 0, 3, 6 and 9 hours, and a graded exercise test (GXT) prior to ED disposition. The 6-hour protocol was 3 hours shorter and included cTn-I with the CK-MB draws. A positive result in any of the diagnostic tests resulted in admission to the hospital. Follow up was obtained by medical record review, phone contact, letter and review of national and state death registries. The 6-hour protocol was not different from the 9-hour protocol in terms of percent admissions (9-hour: 310, 14.53%; 6-hour: 34, 18.48%; p=.182), CCU admits (9-hour: 59, 2.77%; 6-hour: 5, 2.72%; p=.303), or 30-day cardiac events (9-hour: 38, 1.91%; 6-hour: 2, 1.43%; p=.936). The 6-hour CPC strategy is an effective and safe evaluation method for patients at low to moderate risk for acute coronary sy