Carboxyhemoglobin monitored by bedside continuous CO-Oximetry.

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Abstract

Carbon monoxide (CO) poisoning remains a significant and common cause of mortality and morbidity in industrialized countries. Approximately 15,000 patients are treated for CO poisoning yearly in emergency departments (EDs), and roughly 480 of those cases are fatal. Historically, venous co-oximetry has been the mainstay of diagnosis. CO-Oximetry measures the relative concentrations of oxygenated and deoxygenated hemoglobin, as well as carboxyhemoglobin (COHb) and methemoglobin. Recently, a noninvasive pulse CO-Oximeter with a pulse oximetry configuration was developed offering the possibility of performing rapid, photospectroscopic COHB (SpCO) measurements. This technology obtains as SpCO while simplifying testing from the traditional venipuncture based assay to performance of a vital sign not unlike standard pulse oximetry. We think this case is the first instance in which such a device was used in the diagnosis and management of a severe CO poisoning.