Victim of Carbon Monoxide Poisoning Identified by Carbon Monoxide Oximetry.

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Background

Carbon monoxide (CO) is known as a leading cause of unintentional poisoning death in many countries. Diagnosis is usually made by measuring carboxyhemoglobin (COHb), but due to the non-specific symptoms, the crucial step is considering CO poisoning. A possible solution might be screening emergency department (ED) patients. A cutaneous sensor that measures oxygen and CO saturation simultaneously could accomplish that. Objectives: We report a case in which CO-oximetry screening helped to identify CO poisoning in a patient with otherwise non-specific complaints presenting to a busy university hospital ED.

Case Report

A 53-year-old woman presented to our ED, reporting non-specific but common symptoms including emesis and diarrhea, one-sided headache, paresthesia, and palpitations. Whereas conventional pulse oximetry showed normal results, a COHb level of 28% was measured using a CO-oximeter. This allowed a diagnosis of CO poisoning to be made at admission. The patient was treated with 100% oxygen continuous positive airway pressure ventilation, and CO washout was monitored continuously and noninvasively. In the meantime, the local fire department was alerted and found a malfunctioning water heater as the source of CO in the patient's residence. As COHb fell to normal levels and the patient reported feeling well, she was discharged the next day.

Conclusion

CO-Oximetry served as a powerful tool in both identifying and monitoring a CO poisoned patient in a busy ED. Future studies should address possible sources of error using this method on a long-term basis and its level of acceptance by ED staff.