Abstract

The determination of death by trauma versus fire can be of major consideration, especially in civil product liability litigation. Blood carboxyhemoglobin levels can be instrumental in that differentiation. Twenty-eight fatalities involving fire in automobiles were reviewed. All subjects displayed some degree of body burn, and in 25 severe charring and/or incineration was present at autopsy. In only one case was there a history of explosion or flash fire. Carboxyhemoglobin levels varied from 92% to values of < 10%. In seven cases no collision occurred. In six of these subjects COHb values were > or = 47%. In all 16 cases with carboxyhemoglobin levels of < or = 10% a collision occurred. In 12 of 16 of these subjects, blunt force injury sufficient to cause death was discovered. Data presented in this article indicate that a carboxyhemoglobin level of > 30% strongly suggests inhalation of combustion products as the cause of death. In contrast, a level of < 20% should prompt a search for other causes.

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