

COMMENT ON: CEREBROVASCULAR ISCHAEMIA AFTER CARBON MONOXIDE INTOXICATION

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Dear Sir,

Kara et al⁽¹⁾ provided an excellent case study on carbon monoxide (CO) poisoning. In Table I, the authors indicated a normal range of carboxyhaemoglobin (HbCO) of 0%–100.0%, which is not accurate. A study⁽²⁾ has shown a difference in HbCO for smokers and non-smokers, and it may be of value to separate these two groups when discussing an applicable reference range. A suggested HbCO range for non-smokers is < 2%–3% and that for smokers is < 7%–10%.^(2–4) The majority (90%) of non-smokers and smokers have been found to exhibit an HbCO level of < 1.33% and < 7.56%, respectively.⁽⁴⁾ Some studies^(2,4) have noted that the upper HbCO level for smokers can exceed 10% (range 3%–20%), indicating an even higher warranted reference range.

Occupational and environmental exposure to CO can also result in elevated HbCO levels.^(2,5) CO exposure at the US Occupational Safety and Health Administration Time-Weighted Average Permissible Exposure Limit (50 ppm) has been suggested to result in an HbCO concentration of 6%–8%.⁽⁵⁾ With increases in greenhouse gases, notably CO, HbCO levels may also be elevated for some living in 'polluted' locations. Measurements taken soon after smoking have been reported to be a major contributing factor impacting HbCO levels (15%–20%), and should be considered when determining a 'normal' level for a specific individual.⁽⁴⁾ These factors may confound the clinical picture of CO poisoning cases. Awareness of what constitutes a normal range for HbCO and knowledge of influencing factors can be important for diagnosing CO poisoning, since the actual blood concentration does not appear to be well correlated with clinical events.⁽⁵⁾

Yours sincerely,

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