

Case Report: Carbon Monoxide Poisoning Mimicking Arterial Gas Embolism in a Commercial Diver

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Background

Carbon monoxide (CO) is a toxic, colorless, tasteless, odorless gas that is produced when burning carbonaceous fuel. Although it is the most common type of poisoning in the United States, CO poisoning can be a complication in diving. CO poisoning from contaminated diving air supply has been infrequently reported (1-3) and may be under recognized as the symptoms of CO poisoning can mimic those of arterial gas embolism.

Case Presentation

We report a case of a 32-year old male commercial diver working at 7,000 feet of altitude, at a depth of 27 feet for 2 hours [U.S. Navy Table 9-4 sea level equivalent depth 40 feet (4)]. He exhibited loss of consciousness and neurological symptoms while surfacing from the compressed air surface-supplied dive. He was presumptively diagnosed with arterial gas embolism, flown to a regional medical center and treated with hyperbaric oxygen.

During treatment, new information suggested contaminated air from a continuously running engine and compressor. Admission blood was assayed for carboxyhemoglobin (COHb), which measured 8.8%, 6 hours after surfacing, following 4 hours of normobaric oxygen inhalation. The estimated COHb at the conclusion of the dive was approximately 45%. The patient’s diagnosis was changed to carbon monoxide poisoning due to a contaminated breathing source.

Upon discharge, he exhibited problems with balance and gait, nystagmus, word-finding and slurred speech. Also, he had cardiac injury treated with carvedilol. He has been lost to subsequent follow-up.

Conclusion

It is important to consider carbon monoxide poisoning as a differential diagnosis in diving related causalities, including in commercial divers.

References

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