



Carbon Monoxide Poisoning in a Neonate

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To the Editor: Carbon monoxide (CO) poisoning in a neonate is an uncommon and unrecognized entity. It poses higher risk to neonates than adults and older children due to non-specific clinical presentation and higher levels of fetal hemoglobin (HbF) in neonates. We report an unusual case of CO poisoning in a neonate.

A 14-d-old, previously healthy boy was brought to emergency with complaints of decreased responsiveness, poor feeding and multiple episodes of vomiting for 4 h. There was a history of exposure to room heating coal furnace in a closed room for 4–5 h. Mother and grandmother also experienced headache and fell unconscious. They regained consciousness after 2–3 h and noticed that the baby is dull and unresponsive and brought him to the hospital. There was no history of seizures. Baby was hemodynamically stable and blood gas revealed pH – 7.24, pCO₂–37.2, pO₂–45.5, SO₂ –87.4%, carboxy hemoglobin (COHb) – 10.6% and lactate –10.6 mmol/L. In view of elevated COHb and h/o recent exposure, possibility of CO poisoning was considered and baby was started on 100% oxygen therapy and intravenous fluids. After 3–4 h he started regaining consciousness and by 8 h he became normal. Repeat blood gas at 8 h showed pH – 7.43, COHb – 0.1% and lactate – 4.5 mmol/L. Oxygen was stopped and breastfeeding was initiated. Baby was discharged after a total stay of 24 h.

CO poisoning is a sequel of fires and accidents with home heating appliances powered by oil, coal or wood [1]. The mechanism of CO toxicity predominantly relates to tissue hypoxia [2]. As compared to oxygen, CO has 240 times more affinity to hemoglobin leading to displacement of oxygen and

reduction of blood oxygen. Also, it's binding to Hb causes left shift of the oxygen dissociation curve. In neonates, due to high HbF, the curve already has left shift and hence, hypoxia is more pronounced [3]. History of exposure along with measurement of COHb is diagnostic, however, in hemolytic jaundice, COHb may be falsely elevated [4]. Removal from the exposure and administration of oxygen is the key for management. Four to six hours of oxygen will remove over 90% of the CO. Treatment is recommended until COHb reaches normal (<3%).

Compliance with Ethical Standards

Conflict of Interest None.

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