

METAHEMOGLOBINEMIA: CHALLENGES IN EMERGENCY SERVICES

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CLINICAL CASE: INTRODUCTION: Methemoglobinemia can go unnoticed, which is why its diagnosis can be delayed due to its low frequency and sometimes the lack of detailed assessment of arterial blood gases in emergency services.

Keywords: methemoglobinemia, hypoxia, methylene blue.

CASE REPORT: A 63-year-old male with no significant history was transferred by his employers from construction site, reporting loss of alertness 30 minutes prior to the accidental ingestion of a setting Accelerator used as a cement additive in construction, ingesting approximately 100ml; he was seen to be marble-like with SaO₂ 75% room air and with an ECG of 7 points, peripheral cyanosis and marble-like skin, with crackles in bilateral lung bases on auscultation. Endotracheal intubation was performed and mechanical ventilation was started, when taking blood samples, the black color of the same is striking, despite having high ventilatory parameters, the patient persists cyanotic and with low oxygen saturations, he is attached with hypotension 70/43 mmHg, arterial blood gas: pH 7.23, PCO₂ 34.1, PO₂ 378, lactate 9.6, HCO₃ 13.8, PaO₂/FiO₂ 100%, FmetHb 91%; given the gasometric result and identification of the ingested product, treatment was initiated with methylene blue at a dose of 0.2ml/kg (1% solution) plus vasopressor; after the administration of the antidote, a considerable improvement in the clinical picture is seen, being extubated at 36 hours and discharged 8 days after event.

DISCUSSION: Methemoglobinemia is a pathology characterized by the oxidation of divalent iron to trivalent iron in the hemoglobin molecule. Oxygen can bind to hemoglobin only in its divalent form, and as a result of this binding, oxygen is temporarily oxidized to the ferric form. Symptoms are a direct consequence of inadequate oxygen transport; it can occur as a result of a congenital defect or an acquired disorder, which are more common. Treatment with methylene blue is indicated in symptomatic patients with levels greater than 20% or even less but with central nervous system, cardiovascular and pulmonary involvement; quickly reverses the adverse effects. Considering that the literature mentions that levels above 70 % are fatal.