



## Clinical Image

# Red urine due to hydroxycobalamin administration

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## Orina roja debida a la administración de hidroxicoBALAMINA

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Exposure to fire environments can cause smoke poisoning by the presence of gases (Carbon monoxide, CO, and hydrogen cyanide, HCN) CO binds to hemoglobin forming carboxyhemoglobin, blocking oxygen transport and HCN binds to metal ions such as CO<sup>3+</sup>. Hydroxycobalamin is used in our environment. It binds to cyanide forming

cyanocobalamin (vitamin B12) and this action restores mitochondrial function [1, 2].

14 years old male was admitted into the ICU (Intensive Care Unit) under suspicion of CO and HCN poisoning after suffering a house fire. He was attended by the out-of-hospital emergency medical services and an orotracheal

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intubation was decided since soot was present in the pharynx and vibrissae, with clinical stability in every other level. It was determined to administrate hydroxycobalamin (3.5 mg). Whilst administrating it, a reddish colour developed in his skin and mucous membranes. When he arrived into the ICU and after a urinary catheterization, he featured red urine (cherry colour) simulating a clear haematuria. (Figure 1). The results from the urinalysis ruled out the presence of red blood cells in the urine. The patient's evolution was favorable.



**Figure 1:** Red urine (cherry colour) of urinary catheterization simulating clear haematuria.

The reddish colour of the urine is a phenomenon depicted after the administration of high doses of hydroxycobalamin [3] and it is linked with the unaltered excretion of this antidote via the urine. This pigmentation is harmless and resolves spontaneously within days.

The use of hydroxycobalamin is useful because it chelates cyanide. Cyanide toxicity is due to the inhibition of cytochrome oxidase and blocking aerobic metabolism, causing hypoxia [4]. It is important to know this phenomenon because it is benign and no further therapeutic actions should be taken.

## 1. CONFLICT OF INTERESTS

The authors have no conflict of interest to declare. The authors declared that this study has received no financial support.

## 2. REFERENCES

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