№ 323

LOCAL SMURF TURNS PINK, AFTER TREATMENT WITH MAGICAL BLUE POTION

Muhammad Faiz Kasmuri[1], Derrick Chuen Yew Lee[1], Wan Nuralia Syamimie Wan Ahmad Shahmirrudin[1], Jien Wey Beh[1], Mashitah Mohamed Ismail[1]

[1]Emergency & Trauma Department, Hospital Sultan Abdul Halim, Sungai Petani, Kedah, Malaysia

INTRODUCTION

Sodium nitrite is commonly used as a preservative in the food industry. It is odourless, and is also used fashionably as a means for self-harm. Sodium nitrite toxicity causes methaemoglobinaemia, which is a fatal condition if not promptly identified and managed.

CASE DESCRIPTION

A 22-year-old gentleman - a recreational marijuana abuser with major depressive disorder attempted to end his life by intentionally ingesting sodium nitrite, which he purchased from an online store. He presented at a district hospital after experiencing headache, palpitation, and shortness of breath. Initial pulse oximetry showed 97% under room air. The patient subsequently deteriorated, with his lips and distal ends of both extremities turned cyanosed. His best pulse oximetry was 85% on non-rebreather mask of 15L/min. Arterial blood gas noted partial oxygen pressure of 399 mmHg and methaemoglobin level was 13.1%. He was given 60 milligram intravenous methylene blue slow bolus. Fortunately, his symptoms resolved rapidly. He was admitted for observation and was discharged well.

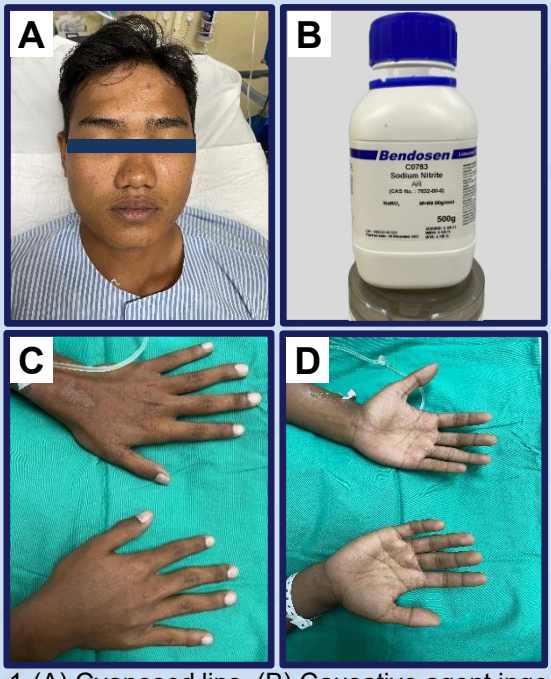

Figure 1-(A) Cyanosed lips, (B) Causative agent ingested, (C) Cyanosis on patient's nailbeds bilaterally, (D) Cyanosis on bilateral palms

DISCUSSION

Sodium nitrite oxidises haemoglobin iron (Fe^{2+}) to methaemoglobin (Fe^{3+}), which is inefficient in oxygen delivery. Methaemoglobinaemia leads to hypoxia even if oxygen levels are normal, which was demonstrated in our patient. Prompt administration of methylene blue reduces methaemoglobin to functional haemoglobin, thus improving oxygen delivery to tissues.

CONCLUSION

Sodium nitrite, which is readily available in online shopping platforms, is toxic and can cause methaemoglobinaemia. Emergency clinicians should remain insightful in managing patients with sodium nitrite toxicity as timely identification and administration of methylene blue is vital to improve patient outcomes.

REFERENCES

1. Yoon, J. C., & Kim, S. E. (2022). Suicide attempt using sodium nitrite ordered on the internet: Two case reports. Medicine, 101(28), e29355.
2. Stephenson, L., Wills, S., van den Heuvel, C., Humphries, M., & Byard, R. W. (2022). Increasing use of sodium nitrite in suicides—an emerging trend. Forensic Science, Medicine and Pathology.
3. Durão, C., Pedrosa, F., & Dinis-Oliveira, R. J. (2020). A fatal case by a suicide kit containing sodium nitrite ordered on the internet. Journal of Forensic and Legal Medicine, 73, 101989.

KEYWORDS: Sodium nitrite, methaemoglobinaemia, methylene blue