PP – 14

An unusual presentation after IV Paraquat injection

Mingfang Wang, Han-Wei Mu
China Medical University Hospital

Objective: Self-harm by oral paraquat ingestion is a common suicide method in Taiwan. However, poisoning by intravenous injection is extremely rare and has higher mortality compared to oral pathway. Herein, we present a case with tongue and retropharyngeal ulcer after intravenous injection of paraquat.

Case Report: A 34-year-old female was sent to ER due to injection of 100 cc of diluted paraquat (50 cc 24% paraquat in 500 cc normal saline) intravenously through her right median cubital vein one hour prior to admission. She suffered from severe vomiting without throat pain initially. Physical examination showed no oral ulcer nor erythematous change around the injection site. The urine qualitative sodium dithionite test showed light-blue color. Laboratory data revealed normal initial renal function, plasma paraquat concentration was 28.33µg/mL and urine paraquat concentration was 26.72 µg/mL. Charcoal hemoperfusion was administered for 6 hours. Nevertheless, her renal and liver function kept exacerbating in the following one week, which exclusively reached the peak at day4 and day5. Progressive pulmonary fibrosis and hypoxia developed subsequently, and she deceased despite mechanical ventilation on day 11. Surprisingly, throat pain developed since day 4 and ulcerations over tongue and posterior pharyngeal wall were noticed. She strongly denied oral ingestion of paraquat throughout the course.

Conclusion: Intravenous paraquat poisoning is a rare presentation and often results in more severe outcome than oral ingestion according to literature. Expeditious clinical course, such as fulminant and severe poisoning is usually associated and changes dramatically at an earlier stage. This patient experienced severe poisoning despite aggressive and rapid decontamination by hemoperfusion, similar to other cases reported in literature. One of the most common manifestations of paraquat poisoning is oral ulceration through the mechanism of direct oral-pharyngeal mucosa injury, which is always induced after oral ingestion. However, in our patient who denied oral paraquat ingestion, she had the same development of tongue and retropharyngeal ulcer. It is hypothesized that oxygen reacts with the paraquat via redox cycle commonly in kidneys, lungs, and peripheral tissue, producing oxidative injury and causing cell damage. According to these mechanisms, the oxygen-rich organs, such as the lungs and upper airway, are possibly more affected than the others. However, this hypothesis needs further investigation to be proven.