EP – 12

Dapsone poisoning with labile methaemoglobinaemia requiring methylene blue and multi-dose activated charcoal – A case report

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Objective: Dapsone is known to induce methaemoglobinaemia in recommended doses and overdose. Many modalities have been shown to be beneficial in treatment but no single therapeutic agent has been sufficient treatment for every case. In recent times concurrent therapies have been utilised to treat dapsone toxicity. We present a case of dapsone toxicity from overdose, which responded to methylene blue (MB) and multi-dose activated charcoal (MDAC).

Case Report: A 23 year-old female presented 1 hour after ingestion of 6 g of dapsone with suicidal intent causing significant methaemoglobinaemia and anaemia. On admission her vital signs were normal except for persistently low O2 saturations of 90%, refractory to high-flow oxygen, and blue discolouration of skin. Her initial PaO2 was 234 mmHg and Methaemoglobin (Met-Hb) level was 22.4%. She was treated with 100 mg MB intravenously and 50 g activated charcoal (AC). We then commenced MDAC for a total of 7 doses and she received 2 further doses of MB (Table 1). In this time her Met-HB levels were labile but normalised after 52 hours.

Conclusion: Multiple therapies have been used to treat methaemoglobinaemia. Despite treatment with MB and AC our patients Met-Hb levels rebounded to above initial levels, likely secondary to the enterohepatic circulation of dapsone and so a regime of MDAC and further MB was given. Over the course of 48 hours her Met-Hb levels stabilised and she could be discharged without significant complication or need for invasive treatments like haemodialysis, hyperbaric oxygen or exchange transfusion.