[ID-P#103] Extracorporeal Treatment in Hematologic Snakebite Envenomation: A Case Series

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Background/Objective: Extracorporeal treatments (ECTR), such as hemoperfusion, are modalities that promote removal of endogenous or exogenous substances from the body, commonly used in cases of drug overdose and renal failure. Its application in snakebite management is of considerable research interest. 3 This case series aims to present the management of hemotoxic snakebite, focusing on supportive and extracorporeal treatments, particularly hemoperfusion.

Method: This report includes three cases of snake envenomation presenting at a tertiary hospital.

Results: The patients initially presented with stable vital signs and localized swelling at the bite site. Clinical effects and systemic signs of envenomation, specifically hematoxicity, were observed. Coagulopathy was the predominant complication, evidenced by prolonged 20-minute whole blood clotting time, deranged coagulation parameters (Prothrombin time > 15s), and thrombocytopenia (platelet count <70 x 10^9/L). Due to the unavailability of pit viper antivenom locally, patients underwent three sessions of hemoperfusion with hemodialysis, alongside other supportive measures such as blood transfusion, wound debridement, and vitamin K administration. Blood parameters were measured before treatment, monitored after each session, and checked daily thereafter to assess improvement. Following three doses of ECTR (hemoperfusion) and supportive treatments, there was a noticeable decrease in swelling and bleeding at the affected area. Blood parameters gradually normalized. All patients showed significant improvement and were discharged.

Conclusion: The World Health Organization (WHO) identifies antivenom as the primary treatment for snakebite envenomation. However, in regions where pit viper bites are prevalent and antivenom is unavailable, this case series highlights hemoperfusion as a viable and cost-effective alternative. Hemoperfusion effectively reduces hematoxicity, as evidenced by the normalization of blood parameters and resolution of symptoms in the three cases. This suggests that hemoperfusion can safely mitigate the systemic effects of venom, and could be integrated into treatment protocols where antivenom is unavailable, providing a crucial lifeline for affected patients.