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Letter to the Editor

Use of extracorporeal removal techniques in patients with paraquat toxicity and unknown hepatitis viral marker status

To the Editor,

Paraquat poisoning is a highly lethal toxicity despite advances in critical care and efforts in extracorporeal elimination [1]. After ingestion, paraquat is rapidly absorbed via the gastrointestinal tract and reaches peak plasma concentrations within the 1st hour. In many cases, by the time patients receive medical support; gastrointestinal decontamination is no longer possible.

Afterward, paraquat is actively absorbed by most vital organs, and plasma concentration rapidly drops within about 4 hours [2,3]. This duration must be considered the optimal period to use extracorporeal elimination techniques. Fortunately, charcoal hemoperfusion, and to a lesser extent hemodialysis, can help eliminate paraquat [2]. However, our experience indicates that most patients do not receive extracorporeal elimination during this period. Although charcoal hemoperfusion is the preferred method [2], it is not readily available, even in many tertiary care centers. To use this technique, a rapid patient transportation system is required. In contrast, hemodialysis can be used more readily in some secondary care settings, so it is a good choice in the golden period. However, some problems can be encountered. Although central venous access is easily attained, the unknown hepatitis viral marker status of a patient is a common barrier to emergency hemodialysis or charcoal hemoperfusion. It is necessary to prevent contamination of hemodialysis equipment by infected patients [4]. Because of the high mortality rate of paraquat toxicity and the necessity of removing considerable amounts of it from the bloodstream during the first hours, we propose that hemodialysis equipment be reserved for patients who are positive for hepatitis B surface antigen and also be used for these patients. Although there is a risk of nosocomial transmission of hepatitis B, this risk is not very high [5]. In addition, hepatitis B immunoglobulin can be used for protection immediately after the procedure if laboratory data indicate that the patient is not seropositive [6].

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