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Concurrent Hemoperfusion and Hemodialysis in Patient with Acute Pesticide Intoxication

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Objectives : If hemodialysis (HD) and hemoperfusion (HP) are performed concurrently, water soluble and insoluble chemicals in the pesticide formulation may be eliminated more effectively in time.

Methods : Between January 2011 to December 2012, we used HP and HD consecutively (HP-HD group, 347 cases), and then during the second 2 years (January 2013 to December 2014), we used concurrent HP and HD (HPD group, 383 cases). We compared the clinical outcomes between the two groups.

Results : The death rates were higher in HP-HD group than in HPD group; (48.1% vs. 20.9%) for the overall death rate, and (81.8% vs. 57.9%) for the paraquat (bipyridylium) death rate ($p<0.001$).
In multiple logistic analyses, age ($p=0.013$), ingested volume ($p<0.001$), and HP-HD ($p=0.014$) were significant risk factors for mortality in the paraquat ingested group.

Conclusions : Concurrent HP and HD would be effective and safe treatment for patients with acute pesticide intoxication, in particular, paraquat intoxication.

Keywords : retrospective analysis, clinical efficacy, dialysis