Prostacyclin as the Sole Antithrombotic Agent for Acute Renal Failure Hemodialysis

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Dear Sir,

Patients with acute renal failure (ARF) have a higher risk for hemorrhage and ARF prognosis stems from both the causal disease and complications, mainly hemorrhagic. The use of heparin together with hemodialysis (HD) is likely to worsen hemostasis disorders and low heparin dose will be used [1,2].

The use of prostacyclin (PGI₂) as the sole antithrombotic agent for ARF hemodialysis has previously been reported [3] but still remains to be debated [4]. In order to clarify this particular point, a total of nine HDs with prostacyclin alone (5 ng/kg/min) were performed in 4 patients suffering from ARF. On eight occasions, HDs were achieved using a dialysis bath containing acetate as a buffer and once with bicarbonate.

PGI₂, as the sole antithrombotic agent allowed, extended HD (300 ± 18 min, mean $\pm$ SEM). Clotting within the dialyzer occurred on a single occasion whereas hypotension required administration of intravenous fluid in 5 of the 9 cases with a mean infused volume of 790 ± 290 cm³. These hypotensive attacks hampered the ultrafiltration rate as shown by a lack of increase in blood proteins following HD (64 ± 2 before and 64 ± 1 g/l afterwards). Hemorrhage occurred in 1 patient without a change in clotting tests after HD with PGI₂ (table I).

The use of PGI₂ as the sole antithrombotic agent appears justified in patients with ARF in whom hemorrhage represented a potentially life-threatening problem. Dialysis with PGI₂ alone lays patients open to clotting and hemorrhage this latter being less frequent with PGI₂ than with regional heparinization.

Table I. Results of clotting tests in 4 patients with acute renal failure undergoing hemodialysis with protacyclin as the sole antithrombotic agent (mean $\pm$ SEM)

References

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