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ORIGINAL ARTICLE

Early Acute Renal Injury and Brain Dead

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Introduction

Brain death is the cause of a major systemic inflammatory response syndrome (SIRS) affecting all organs and responsible for part of their primary dysfunction and their lower survival after transplantation. Kidney failure (AKI: Acute Kidney Injury) is one of those consequences, it may be the cause of post-transplant complications if it is not supported quickly.

Patients and Methods

We prospectively included all patients hospitalized for serious head injury between September 2008 and September 2013, having evolved to brain death. We matched with traumatized brain dead, but not neurological cause. Renal function (creatinine levels) was analyzed and compared (MDRD: Modified diet in renal disease) between the two series.

Results

A total of 95 cases and 95 controls were included in our study summers. All have benefited from a therapeutic management without limiting care. We found a decreased renal function, creatinine = 104.84 ± 49.94 mg/dL among cases (HES+) and 74.16 ± 20.86 mg/dL in controls (EME-) ($p = 0.004$), with a stage 3 MDRD on admission in 25% of cases (+EME) is confirming to 24-48 hours (AKI).

Discussion

Acute brain injury can cause neurohumoral changes that may affect renal function directly by an exacerbation of renal sympathetic nerve activity, impairing renal blood flow and glomerular filtration, vasopressin secretion disorders are also the source of fluid and electro-

lyte imbalances, Sanchez-Fructuoso, et al. reported significantly lower viability of transplanted kidneys from subjects in a state of brain death [1,2].

Other studies have noted a correlation between kidney from a subject in a state of brain death, delay a recovery of renal function and an increase in acute rejection.

Measures to be taken in patients at risk are:

- Stop the exposure of any nephrotoxic agent whenever possible.
- Optimize blood volume, oxygenation and renal perfusion pressure.
- Monitored patients hemodynamically.

Conclusion

We have demonstrated early renal function in the subject in a state of brain death, the occurrence of acute worsening of renal function results from the addition of hemodynamic factors, hormonal and neuroinflammatory, this data confirmed elsewhere in the literature, could help to anticipate this situation by early maximizing the potential donor and preparing the transplant teams in the management of post-transplant difficult.

References

1. Nongnuch A, Panorchan K, Davenport A (2014) Brain-kidney crosstalk. Crit Care 18: 225.
2. Fructuoso Sanchez A, Prats D, Brands M, Blanco J, J Torrente, et al. (2004) Does donor brain death influences acute vascular rejection in the kidney transplant? Transplantation 78: 142-146.



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