

Prednisolone has a positive effect on the kidney but not on the liver of brain dead rats: A potential role in complement activation

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Background: Contradictory evidence has been published on the effects of steroid treatments on the outcomes of kidney and liver transplantation from brain dead (BD) donors. Our study aimed to evaluate this disparity by investigating the effect of prednisolone administration on BD rats. **Methods:** BD induction was performed in ventilated rats by inflating a Fogarty catheter placed in the epidural space. Prednisolone (22.5 mg/kg) was administered 30 min prior to BD induction. After four hours of determination of BD: serum, kidney and liver tissues samples were collected and stored. RT-qPCR, routine biochemistry and immunohistochemistry were performed. **Results:** Prednisolone treatment reduced circulating IL-6 and creatinine plasma levels but not serum AST, ALT or LDH. Polymorphonuclear influx assessed by histology, and inflammatory gene expression were reduced in the kidney and liver. However, complement component 3 (C3) expression was decreased in kidney but not in liver. Gene expression of HS