ACUTE KIDNEY INJURY IN A DOUBLE LIVER TRANSPLANT SUPPORTED BY CRRT AS A MULTIORGAN SUPPORT THERAPY
AKI & CRRT Conference

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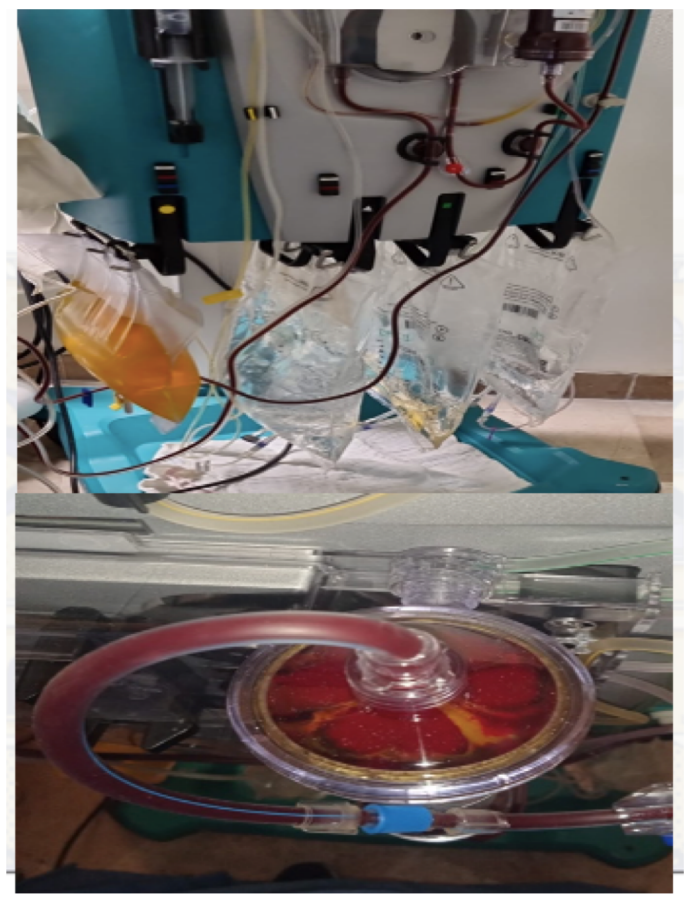
Abstract

Acute kidney injury after liver transplantation is common, its secondary various insults to the kidney, like hypotension, infection, and the nephrotoxic medications for immunosuppression.
We present a case of a double liver transplant due to acute rejection and AKI.
Even that the patient require renal and liver intensive support, we were able to lead him to a satisfactory recovery.



Case presentation

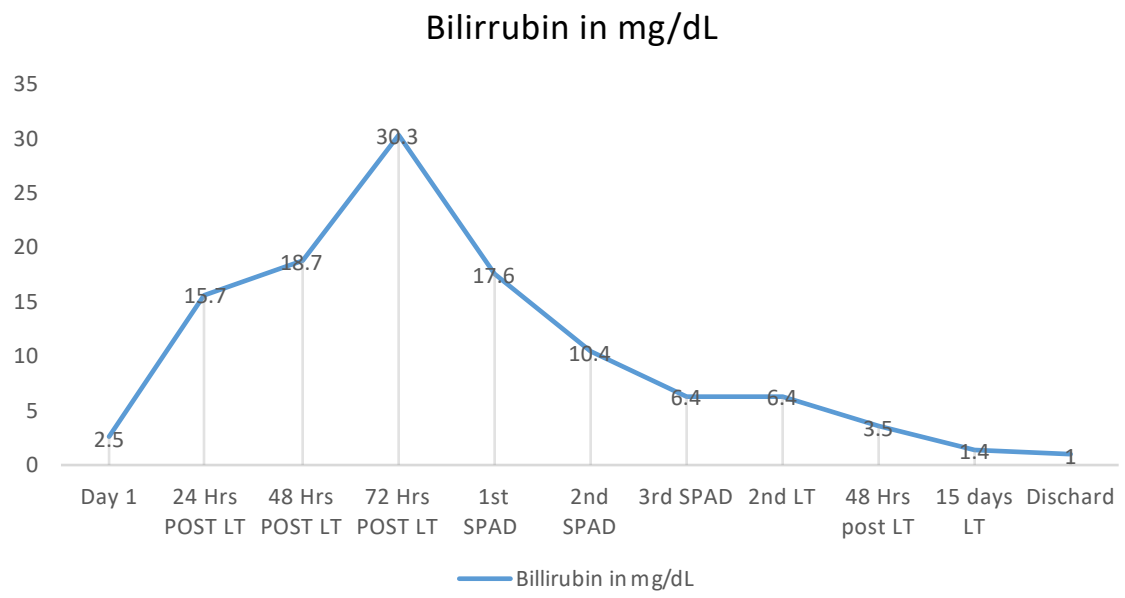
67-year-old woman with history of hypothyroidism, liver cirrhosis due to non-alcoholic steatosis (NAFLD) who underwent to liver transplant presented 48 hours later anuria, continuous renal replacement therapy (CRRT) was performed, at 72 hours she developed dysfunction of the graft and acute liver failure (ALF) with the following laboratories:

Hgb 10.10 g/dL	Leu 5.5 K/uL	Plt 30.30 K/uL	TP 22 sec	TTP 46 sec	Alb 3.2 g/dL	AU 24 mg/dL	TB 30.3 mg/dL	DB 20.5 mg/dL	IB 9.8 mg/dL

Others: Col 86 mg/dL, Cr 1.0 mg/dL, P 3.1 mg/dL, Glu 80 mg/dL, BUN 28 mg/dL, Tg 163 mg/dL, ca 9.4mg/dL, K 4.9 mmol/L, Na 134 mmol /L, Cl 102.8. Therefore, it was decided to offer single pass albumin dialysis (SPAD) treatment with 3 sessions in order to improve Bilirubin levels and try to arrive to a second liver transplant reported as an emergency 0, this occurred, and LT was successful. Nevertheless, the patient required 18 days of CRRT and then migrated to Intermittent Hemodialysis for 6 sessions with a partial renal recovery and no need of RRT.

Introduction

Acute kidney injury (AKI) can be developed in up to 50% of the patients after a liver transplant (LT), of which at least 15% will require renal replacement therapy. The development of AKI will depend on multiple factors such as the recipient comorbidities, the characteristics of the donor and the immunosuppression regimen. The development of a post-LT AKI is associated with an increase in hospital stay, development chronic kidney disease as well as a higher mortality.



Discussion

Multiple comorbidities prior to LT are associated with AKI after transplant, some of them: Cr. 1.9 mg/dL, BUN < 27 mg/dL have a 3.6 greater risk of requiring RRT after transplant, a BMI < 27.5 Kgm2 and hepatorenal syndrome are also associated, which raises the risk of developing CKD after LT.
Current evidence shows the efficiency of the SPAD system in the context of ALF, no significant differences have been found comparing with MARS System, it has been seen that SPAD induces a greater decrease in bilirubin compared to MARS and in vitro its detoxifying capacity has been similar. There are not enough studies to compare both therapies, but their efficiency is similar, so that the choice of the type of therapy to use reduces the cost and access to the resource.

Conclusions

AKI after LT has an impact on survival as well as on the development of CKD with a progression of up to 56.2% in those who present AKI. Renal dysfunction after LT is associated with a mortality of 15.5% at 28 days. This patient required 18 days of CRRT and 6 sessions of IHD. Currently the patient is alive and, in a follow-up, free of replacement therapy, she has a filtration rate of 41 ml/min/7.3m2 classified as G3bA1 chronic kidney disease.

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