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How to manage kidney allograft in liver-kidney transplantation-kidney

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Combined liver-kidney transplantation (CLKT), first reported by Margreiter et al, is a life-saving procedure for patients with end-stage liver disease (ESLD) and underlying chronic kidney disease (CKD), or prolonged acute kidney injury. Due to physiologic changes secondary to portal hypertension in patients with ESLD, kidney injury is common, and CLKT showed increasing pattern. ESLD patients with CKD or prolonged acute kidney injury greater than 6 weeks are at risk for developing end stage renal disease after LT alone and ESLD patients with advanced CKD showed significantly increased mortality when taking LT alone. Therefore, those patients are candidates for CLKT, and evaluation for CLKD should include a thorough evaluation for the status of kidney disease. CLKT necessitates special consideration of physiological needs for both liver and kidney allografts. For example, LT recipients are often sick at the time of transplant with significant coagulopathy, and require vasopressor/inotropic agents intraoperatively. Thus, the hemodynamic status of the recipients is far than ideal for the newly implanted kidney allograft. Furthermore, in patients with hyperbilirubinemia, the bilirubin crystalizes in the tubules of kidneys, increasing the risk for AKI and further renal dysfunction of the kidney allograft. In contrast, some studies indicate that liver allografts can have an immuno-protective effect on kidney allografts from the same donor when the organs are transplanted together, which suggest the need for the modification of immune suppressant regimen compared to KT alone cases. In this presentation, I will summarize recent practices in CLKT especially in terms of kidney allograft with data published till now.