

# Combined liver-kidney transplantation: a single centre experience

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## Background

Combined liver-kidney transplantation (CLKT) is an accepted treatment for patients with liver failure and progressive renal insufficiency. Historical outcomes have been favourable in terms of patient survival and that of both allografts. As we accept ever more extended criteria donors, there is a risk that outcomes will be less favourable. Our aim was to analyse our experience of CLKT overall and then to compare historic and modern cohorts to determine any difference in outcome.

## Methods

A retrospective analysis of patient notes and electronic records was performed. All CLKT performed at a single centre were included.

## Results

31 CLKT were performed in 30 patients over a 26 year period.

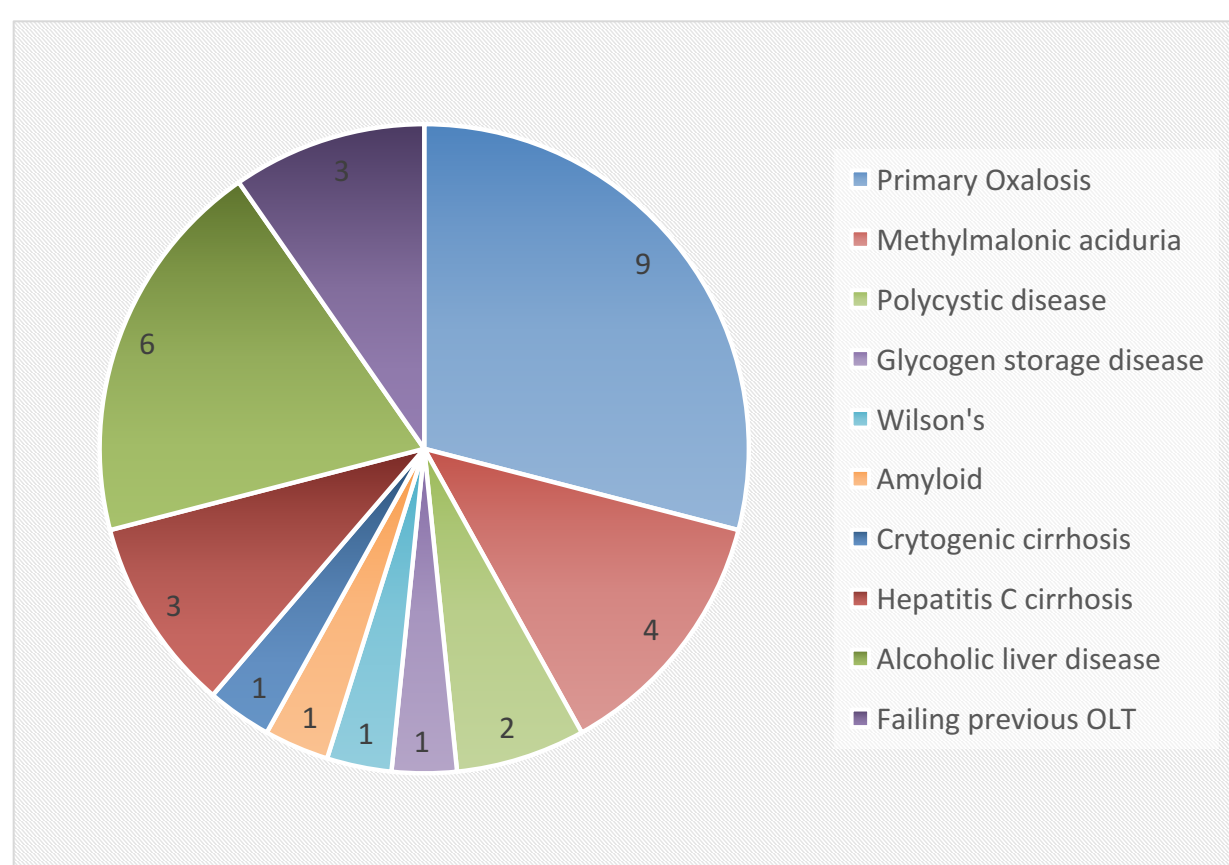


Figure 1. Indications for CLKT. 17 patients had a metabolic condition causing progressive disease in both organs; one of these required a second CLKT. 2 patients underwent CLKT after OLT; one had recurrent PSC, the other hepatic artery thrombosis; both had tacrolimus nephrotoxicity. The remainder had some form of associated renal insufficiency: Of the alcoholic patients, 3 had IgA nephropathy, 2 diabetic nephropathy and one MCGN. Of the hepatitis C patients, 2 had glomerulonephritis and one IgA. The cryptogenic cirrhosis patient had non-glomerulonephritic nephropathy.

	Pre 2010	2010 onwards	Overall
n	19	12	31
Mean donor age	34	43	37
No. DCD (%)	0	2 (17)	2 (6)
Mean liver CIT	648	493	582
Mean kidney CIT	850	739	799
Mean recipient age	31	41	35
On haemodialysis?	11 (58%)	9 (75%)	21 (68%)

Table 1.

Donor and recipient characteristics and ischaemia times. If the cohort is divided into subgroups, pre-2010 and 2010 onwards, the age of both donors and recipients is significantly greater in the latter period.

Overall, 21 patients remain alive, 19 patients have functioning CLKT liver allografts, and 17 patients have functioning CLKT renal allografts after a median follow-up of 57 months (7 days-25 years).

## Patient survival

- 9 patients have died in total
- Causes include:
  - Multiple organ failure (n=6)
  - Septicaemia (n=1)
  - Mesenteric infarction (n=1)
  - Myocardial infarction (n=1)
    - this patient was in the latter subgroup

## Liver allograft survival

- 4 liver re-transplants were required due to
  - Vascular thrombosis (n=2)
    - both occurred in 2013
  - Primary non-function (n=1)
  - Ductopenic rejection (n=1)

## Kidney allograft survival

- 13 renal allografts have failed
  - Primary non-function (n=1)
    - this occurred in 2014 (latter subgroup)
  - Death with functioning graft (n=7)
  - Cellular rejection (n=2)
  - Sepsis (n=2)
  - Cessation of immunosuppression (n=1)
- There were 3 with delayed graft function
  - 2 of these were in the latter subgroup

## Conclusions

CLK transplantation provides a suitable treatment for individuals with liver failure and progressive renal failure. We should continue to make use of older donors.