Blood purification after liver transplantation may be a usefull choice?

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Background: Today is known how hight levels of bilirubin and bile salts can caused toxic effects caused on brain and induces damage also in other tissues.[1-2] . In particular bilirubin and bile salts have effects on native and transplanted liver [3] , and are relevant in the genesis of transplantation-relate complications like Ischemic-type biliary lesions (ITBL) a serious complication, able to cause delay graft failure [2.] Our aim is research the positive predictive value of decreased bilirubin clearance ratio in the development of biliary complications, comorbidities and molrtality.

Materials and method: We have been examinated all patients submitted to OLT in the hospital of Udine from 2010 to 2018. We excluded, for research-technical reasons, patients without ICG-PDR data and homogeneous features. Association between each predictive variable and each complication has been studied using Cox-regression method. All variables characterized by positive correlation have been studied using a multivariate Cox-regression model. Kaplan Meier plot was used to estimate the overall survival (OS).

Conclusion: Decreased bilirubin clearance ratio 24h postOLT and one week after OLT are two major predictors of biliary complication such as leakages and mortality. This feature could be explained by toxic damage caused by bilirubin and bile salts on hepatocytes, cholangiocytes and all epithelial cells. About this, blood purification may be helpful to remove a lot of inflammatory mediators. These technics have been demonstrated the capacity to restore immune function.

Univariate Logistic Regression

BCR24h	Odds Ratio	P>|z|	[95% C. I.]	
LEAKAGES	13.261	**0.017**	1.58	111.04

Tab.1 BCR24h : a predictor of biliary leakages

Univariate Cox-Regression

BCR1W	Haz. Ratio	P>|z|	[95% C. I.]	
MORT.90d	1.294	**0.075**	0.97	1.72

Tab.2 Association between low BCR at the end of the first P.T. week and the rise of the mortality after 90 days

Multivariate Cox-Regression

BCR24h	Haz. Ratio	P>|z|	[95% C. I.]	
MORT.1 YEAR	1.607	0.005	1.15	2.25

Tab.3 BCR24h : the only significant variable associated with OS

BCR24h= (bil.value 24h after OLT - opening post OLT bil.value) /opening post OLT bil.value
BCR1W = (bil.value 7days after OLT - opening post OLT bil.value) / opening post OLT bil. Value

Bibliography
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3 James R. Spivey, Steven F. Bronk, and Gregory J. Gores. *Glycochenodeoxycholate-induced Lethal Hepatocellular Injury in Rat Hepatocytes Role of ATP Depletion and Cytosolic Free Calcium.* The Journal of Clinical Investigation, Inc. Volume 92, July 1993, 17-24