J Nephrol Ther 2015, 5:4
http://dx.doi.org/10.4172/2161-0959.C1.019

OMICS International
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4th International Conference on
Nephrology & Therapeutics
September 14-16, 2015 Baltimore, USA

Renal transplantation in HIV-infected patients: The first Portuguese review

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With the introduction of combination antiretroviral therapy (cART), prognosis of HIV infection has been improved and kidney transplantation (KT) in HIV positive patients became possible. We reviewed the demographic, clinical, laboratorial and therapeutic data of all the HIV-infected patients who underwent KT prior between 2009 (first KT in Portugal in a HIV-infected patient) and May 2014. Case accrual was through all Portuguese KT centers where a KT in a HIV-infected patient was performed. Patients were transplanted following the American and Spanish guideline recommendations that included maintenance on cART, undetectable plasma HIV RNA copies and absolute CD4 counts of ≥200 cells/μl in the last 6 months. Fourteen KT were performed on men, 3 KT on women. The mean age of patients at the time of transplantation was 49.9±11.7 years. HIV status was known for 12±5 years. Eight patients had AIDS in the past and all patients received grafts from deceased donors. Twelve patients (64.7%) received induction therapy with basiliximab and two patients had early graft loss. In 2 patients humoral rejection was diagnosed and in 3 patients, cellular rejection. Two patients died and one additional patient had early graft loss. KT is a possible but challenging, renal replacement therapy in selected HIV patients. Even in those with AIDS criteria in the past, when the disease is controlled and after the reconstitution of the immune system with cART, KT can be performed. Nevertheless, the risk-benefit ratio for each patient needs to be taken in consideration.

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How *ex vivo* lung perfusion could play a significant role to decrease the incidence of renal injuries after lung transplantation

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Lung transplantation is indicated for terminal stage lung diseases such as chronic obstructive pulmonary disease, idiopathic pulmonary fibrosis, cystic fibrosis, pulmonary hypertension, and sarcoidosis, which have a significant impact on the pulmonary vasculature and may affect the function of the right ventricle and cardiac output. Accordingly, right ventricular and correspondingly the left ventricular parameters and functions have been reported to improve after lung transplantation. However, improved cardiac index, echocardiography and other cardiovascular parameters are not the only indicators of good prognosis. Renal functions may, in addition, provide more reliable clinical prognostic evaluation. When the cardiac output is improved, following lung transplantation, renal perfusion and the urine output would correspondingly improve. However, if renal injury develops, urine output would not be able to reflect the improvement of the cardiac functions, and the cardiovascular system may instead be affected secondary to the renal injury. High rates of incidence of acute and chronic kidney injuries have been reported following lung transplantation; with complete recovery from the acute kidney injury did not decrease the risk for the development of chronic kidney disease or long term mortality. Though renal injury following lung transplantation depends on many risk factors, including the original status of the patient's kidneys and the effects of the immuno-suppression, especially calcineurin inhibitor therapy, the increased production of inflammatory cytokines due to the ischemic reperfusion injury and the donor-recipient contact can be propagated to significant levels that lead to renal and other organs injury, dysfunction and or failure. In addition, reducing the proinflammatory stimuli associated with lung transplantation, may affect the long term immunosuppression regime. Hence, effective EVLP might, to some degree, affect the risk of acute and orchronic kidney injuries following lung transplantation. Taking these concepts into consideration, a non-randomized retrospective study has been recently reported by the Toronto team to compare 52 standard lung transplants to 13 EVLP transplants regarding the incidence of acute kidney injury following transplantation. The results showed no significant differences.

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