



Conference Abstract

P.66 Radial Artery Systolic-Diastolic Pulse Transit Time After Kidney Transplantation

Emy Philibert^{1,2,*}, Hasan Obeid^{1,2,4,5}, Mathilde Paré^{1,2}, Nadège Côté^{1,2}, Catherine Fortier^{1,2,4,5}, Rémi Goupil³, Mohsen Agharazii^{1,2}

¹CHU de Québec Research Center, L'Hôtel-Dieu de Québec Hospital

²Division of Nephrology, Faculty of Medicine, Université Laval

³Hôpital du Sacré-Cœur de Montréal

⁴INSERM U-970, Paris Cardiovascular research Center (PARCC)

⁵AP-HP, Pharmacology Unit, Hôpital Européen Georges Pompidou, Université de Paris

Keywords

Kidney-transplantation
pulse-transit-time
radial-artery

ABSTRACT

Purpose/Background/Objective: We have previously shown that restoration of kidney function through kidney transplantation (KTx) is associated with improved aortic stiffness. In this study, we aim to examine whether this change in aortic stiffness translates into improvement of radial artery systolic-diastolic pulse transit time.

Methods: Before and three months after KTx, we obtained radial pressure waveforms using applanation tonometry, in a group of 61 patients with restored renal function (eGFR > 45 ml/min/1.73 m²). Radial waveforms were recorded over a 10 seconds period and ensemble-averaged (using in house-MATLAB program) to obtain a single waveform and then modelled using two Gaussian functions, was then determined as the transit time between the first systolic peak T1 and the early diastolic peak T2.

Results: 61 patients (66% male, mean age: 48 ± 14 years, mean eGFR 3 months after Ktx: 66.0 ± 17.1) were assessed. After KTx, there was a significant reduction in central systolic (125,266 ± 21,848 to 108,994 ± 14,407, $p < 0.001$) and diastolic BP (84,718 to 74,092 9,774, $p < 0.001$), carotid-femoral PWV (11,444 2,626 to 10,235 1,890, $p < 0.001$) and carotid-radial PWV (9,350 1,485 to 8,831 1,291, $p = 0.003$). While T1 declined (0.184 [0.173–0.198] to 0.180 [0.168–0.194], $p = 0.018$), there were no significant changes in T2 (0.322 [0.295–0.360] to 0.318 [0.283–0.355], $p = 0.169$) and in dT1-2 (0.135 [0.119–0.161] to 0.134 [0.117–0.167], $p = 0.457$).

Conclusions: Contrary to our expectation, three months after KTx, we did not observe a significant change in radial systolic-diastolic pulse transit time after kidney transplantation, despite an improvement of BP, aortic and brachial stiffness.

REFERENCE

- [1] Desjardins MP, Sidibé A, Fortier C, Mac-Way F, De Serres S, Lariviere R, et al. Impact of kidney transplantation on aortic stiffness and aortic stiffness index β_0 . *J Hypertens* 2019;37:1521–8.

© 2020 Association for Research into Arterial Structure and Physiology. Publishing services by Atlantis Press International B.V. This is an open access article distributed under the CC BY-NC 4.0 license (<http://creativecommons.org/licenses/by-nc/4.0/>).