Patterns of hypertension in renal transplant patients evaluated with 24h ambulatory blood pressure monitoring

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INTRODUCTION AND AIMS: Hypertension (HTN) is particularly frequent in renal transplant recipients (RTR) and substantially contributes to the high cardiovascular risk of those patients. However, prevalence of the different patterns of hypertension in RTR using 24h ambulatory blood pressure monitoring (ABPM) along with their determining factor are lacking. The aim of our study was to describe the epidemiology of hypertension in RTR, based on ambulatory blood pressure monitoring (ABPM).

METHODS: In this cross-sectional study, prevalent RTR were proposed systematic blood pressure work-up consisting of ABPM, office blood pressure (3 consecutive blood pressure measurements performed by a nurse after 5 minutes of quiet rest) and detection of orthostatic hypotension. Optimal target was defined as BP <130/80 mmHg, resistant HTN defined as BP above the target despite the use of at least 3 antihypertensive drugs including one diuretic. Orthostatic hypotension was defined as an orthostatic reduction in BP of at least 15 mmHg.

RESULTS: Two hundred and eleven RTR (mean age of 61 years, 65% of male, 26% diabetic, 93% under CNI-based treatment, with post-transplant time ranging from 0.3 to 30 years) underwent ABPM. 89% of them were receiving antihypertensive treatment (2.2 different drugs on average including angiotensin renin blockers for 58% of the RTR). Mean ABPM was 132/76 mmHg not different from the mean office BP (131/72 mmHg). Proportion of RTR with optimal BP was 43% and 46% after ABPM and office BP evaluation, respectively (NS). Prevalence of resistant hypertension was around 20% irrespective of the BP measurement technique. White coat and masked hypertensions were present in 5% and 6% of RTR, respectively. Orthostatic hypotension was detected in 19% of the patients (asymptomatic in 2 thirds of them). In multivariate analysis, RTR age, albuminuria and CKD stages 3b and below were independent factors associated to uncontrolled/resistant hypertension.

CONCLUSIONS: Our findings suggest that ABPM does not confer significant advantage over a well formalized office BP measurement in order to characterize BP profile of RTR. While prevalence of resistant hypertension seems to be lower than in the general and native CKD populations, our data suggest that orthostatic hypotension is frequent and needs to be systematically detected.