

Which factors might explain the divergence between clinic and out-of-clinic blood pressure (BP) in kidney transplantation (KT): the EPARA study?

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Introduction: Differences between clinic and out-of-clinic BP, defined as white coat effect (WCE), white coat hypertension (WCH) or masked hypertension (MH), can lead to misdiagnosis and -handling when decisions are solely based on clinic BP measurement. One aim of the study was to examine the risk factors of WCE and MH in late KT.

Methods and population: BP was measured several times in office, but also during 24 hour ambulatory BP monitoring (ABPM, Spacelabs 90207) and by home BP monitoring (HBPM, OMRON M6, for 7 days according to recommendations) in 78 KT patients (mean age 56y, 46 men, 8y of T, 70 treated by antihypertensive drugs). Furthermore, abdominal aortic calcification was determined by lateral radiograph, and carotid-femoral pulse wave velocity (cfPWV) was estimated by SPHYGMOCOR technique.

Results: If BP control is poor in spite of antihypertensive treatment, it is even worse in the out-of-clinic setting, with 62% uncontrolled hypertension identified by daytime ABPM or HBPM. Risk factors for systolic WCE were female gender, higher age and abdominal aortic calcification score, a positive history of vascular events, and a low BMI. On the other hand, MH was associated - in comparison to both well-controlled clinic as well as out-of-clinic BP - with higher BMI, cfPWV, and the Framingham cardiovascular risk score. It is also more often found in male gender and in those with high-normal clinic BP ($p \leq 0.05$).

Conclusion: Out-of-clinic BP monitoring should be encouraged to be applied more often in high risk-populations such as KT, especially when risk factors for WCE or MH are present.