HOME BLOOD PRESSURE IN KIDNEY TRANSPLANT RECIPIENTS (Ktr) -VALIDITY OF DIFFERENT SCHEDULES OF SELF-MONITORING-

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OBJECTIVE
Office blood pressure (OBP) coupled with 24-h ambulatory monitoring (24-h ABPM) or home self-monitoring (HBPM) allow a more accurate assessment of BP control in treated hypertensive patients and identification of different phenotypes of BP. ESH/ESC guidelines (2013) recommended 7 days of home measurements (3 days at least) but that duration is questioned. The present study examined if we can reduce, and to what extent, the 7-days schedule for home measurements in treated hypertensive kidney transplant recipients (Ktr) while keeping a reliable assessment of their BP status.

DESIGN AND METHOD
BP control defined by OBP <140/90 and daytime ABPM or HBP <135/85 mmHg was assessed in 70 hypertensive Ktr treated with antihypertensive drugs (tab. 1). ABPM was measured each 30 minutes the day and each 30 minutes the night with a Spacelabs 90207. Home BP was measured 2 times in the morning and 2 times in the evening during 7 days with an Omron M6, mean HBP being calculated after discarding the 1st day. Ambulatory techniques were performed consecutively and started the day after the clinical visit when OBP was measured. Agreement between daytime ABPM and HBPM was studied for decreasing number of days of HBPM measurements (from 7 to 2 days).

RESULTS
Uncontrolled blood pressure
Based on OBP, 59 of Ktr were uncontrolled, based respectively on daytime ABP and HBP (7 days). 81 and 64 % remained hypertensive despite treatment (Fig.1).

Blood pressure: limits and procedures

<table>
<thead>
<tr>
<th></th>
<th>OBF</th>
<th>&lt;140-90</th>
<th>Omron M6</th>
<th>1 meas. at least</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daytime ABP</td>
<td>&lt;135-B5</td>
<td>Spacelabs 90207</td>
<td>Awake period (patient self-report)</td>
<td></td>
</tr>
<tr>
<td>HOME BP</td>
<td>&lt;135-B5</td>
<td>Omron M6</td>
<td>7 days 1st discarded (2x morning/2x evening/day)</td>
<td></td>
</tr>
</tbody>
</table>

HBPM schedules tested

7 days 6 days 5 days 4 days 3 days 2 days

Chronology of BP measurement techniques

| Office BP | 24-h ABPM | 7-days HBPM |

Table 1: General characteristics

Home Blood Pressure - Sensitivity and Specificity of different schedules
Sensitivity (Sp) testing agreement between daytime ABP and HBP to detect uncontrolled and uncontrolled, decreased progressively when number of days of self-monitoring was shortened from 7 to 2 days. The highest Se (66 %) was observed for a 7 days duration with 1 day discarded for mean calculation. Specificity (Sp) fluctuated around 70 % without showing any decreasing trend in parallel with decreasing number of days (Fig. 2).

Phenotypes of blood pressure
1. Normal BP in office settings
Calculated on OBP, 50 % of Ktr were uncontrolled, based respectively on daytime ABP and HBP (7 days), 81 and 64 % remained hypertensive despite treatment (Fig.1).

2. Hypertension in office settings
For those patients with office uncontrolled BP, daytime ABP confirmed hypertension in 76 % and HBP in 83 %, White Coat Hypertension (WCH) was identified in 24 % of patients with daytime ABP and 17 % with HBP (Fig.4).

3. Agreement between ambulatory BP phenotypes (DAY ABP/HBP) according to the Office BP level

CONCLUSIONS
Home blood pressure measurement is an easier and less restricting method than 24-h ambulatory monitoring. Compared to daytime BP, it was a good alternative to ABPM since nearly 80 % of controlled ktr and 96 % of uncontrolled ktr (OBF/DAY ABP) were similarly classified by both methods when HBP was performed during 7 days and mean calculated after discarding the 1st day. However, the rates for MHT and WCH were lower.

HBPM schedule could be shortened to 5 days but a 3 days one seems more risky obliterating the chance to identify masked HT due to decreased drug adherence at home.

Discarding the 1st day of HBP affected moderately mean HBP except for the 3 days schedule.