

A comparison of different blood pressure measurements methodologies in hypertensive patients stage I-II treated with Aliskiren

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Background: In patients with low CV profile decisions are mostly based on office blood pressure (OBP) values. Other methods available for out-of-office measurement are ambulatory BP measurement (ABPM) and self- BP measurement (SBPM).

Aim: To compare blood pressure values measured by OBP, SBPM and ABPM in patients with essential uncomplicated hypertension treated with aliskiren either as antihypertensive monotherapy or as add-on therapy for treatment of hypertension, in a “real life” setting

Study Design: Patients with stage 1-2 uncomplicated hypertension, (OBP > 140 and/or 90 mmHg and 24 h ABPM > 130 and/or 80 mmHg) either “naives” or treated with a single medication [except ACEI or ARB] received aliskiren for 12 weeks. At visit 2, after an ABPM confirmation of hypertension, all patients initiated treatment with aliskiren 150 mg/d and a digital BP monitor was given for SBPM. At visit 3, aliskiren dose was increased to 300 mg/d. OBP was measured from visit 1 to visit 5; SBPM was measured from visit 3 to visit 5. A second ABPM was done at week 12. Serum creatinine and potassium levels were checked before and at the end of study.

Results: 60 patients agreed to participate. 10 were excluded due to a normal ABPM, and other 5 quit the study due to minor adverse effects. Forty five (Men 26, women 19) ended the study. Forty eight of them were already on monotherapy. Mean age was 61±10 years and BMI was 28±8. Dyslipidemia [62%], Diabetes Mellitus [12%] and smoker [8%] were the most common comorbidities.

Blood Pressure through the study [mmHg]

	OBP	SBPM	ABPM 24 h	AWAKE BP	ASLEEP BP
Visit 1	146/89		142/82	146/83	130/74
Visit 3	131/80	137/77			
Visit 5	127/77*	130/75#	130/76*	134/78*	119/66*

*=p=0.001 vs. visit 1; #=p=0.01 vs. visit 3.

Control of BP changed according with the different methodologies. For OBP, 82%, mean 124/77 mmHg; for SBPM, 71%, mean 125/73 mmHg and for ABPM 62%, mean 123/73 mmHg of the patients.

Variability (STD) was lower either on SBPM (10.8% both in morning and evening measurements) or ABPM (13.1%).

Eighty four of the patients were non dipper [38/45 pat]. In those patients, asleep SBP decreased from 133±7 to 121±10 mmHg, p=0.001 after treatment.

Serum creatinine increased from 0.87±0.21 to 0.90±0.23 mg%, p=0.0004. Serum K⁺ remained unchanged.

Conclusion: Treatment of hypertensive patients with low CV risk according to OBP values alone may result in failure of control in up to 20% of the patients. The high percentages of non-dipper hypertensive patients suggest the need of ABPM before treatment.. SBPM values at the end of the study were similar to 24 h ABPM, supporting the usefulness of this methodology for follow-up. Aliskiren decreases significantly BP through the study, with a low variability, both in SBPM and ABPM. Most of the patients achieved normal values.