**Table 2:** Study characteristics.

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| --- | --- | --- | --- | --- | --- | --- |
| **Author, Date** | **Study Type** | **N\*** | **Select Population Characteristics** | **Drug Tested** | **Study design/Follow up** | **Variables Included in Review** |
| Crippa et al., 2016 [49] | Non-randomized trial | 41 | All baseline mean daytime BP > 135/85 mmHg, mean nighttime BP > 120/70 mmHg, already on anti-HTN medications. 32 “non-dippers,” 9 “risers.” 5 symptomatic OSA events per hour or 15 asymptomatic events per hour. | Barnidipine | 10 mg barnidipine at bedtime added to various previously prescribed anti-HTN regimens. 24-hr ABP\* monitoring repeated after 12 weeks of treatment. | • Dipping Pattern  • Average daytime BP  (systolic & diastolic)  • Average nighttime BP  (systolic & diastolic) |
| Kario et al., 2014  [46] | Randomized crossover trial | 11 | 3 sleep ABP measurements ≥ 120/70 mmHg. All participants already taking at least 1 anti-HTN medication. Excluded those already treated with sympatholytic or bedtime dosing of anti-HTN drug. | Nifedipine;  Carvedilol | Baseline TSP\* & polysomnography performed 2-8 weeks before a single dose of nifedipine ER 40 mg or carvedilol 20 mg given after dinner. Measurements repeated on night of treatment. Then 2 weeks washout period and process repeated with other drug. | • Average daytime BP  (systolic & diastolic)  • Average nighttime BP:  (systolic & diastolic)  o Fixed interval  o Oxygen-triggered |
| Kasiakogias et al., 2015  [50] | Non-randomized crossover trial | 41 | Adults with stage I-II HTN and AHI\* ≥ 15. Those already on anti-HTN medications excluded. | Valsartan for those with stage I HTN;  Valsartan/amlodipine for those with stage II HTN | 160 mg valsartan for stage I; 5/160 mg, 10/160 mg, or 10/320 mg amlodipine/valsartan for stage II.  8 weeks with a.m. treatment, then 8 weeks with p.m. treatment. | • Average daytime BP(systolic & diastolic)  • Average nighttime BP  (systolic & diastolic)  Dipping pattern |
| Serinel et al., 2017  [47] | Double-blind randomized placebo-controlled crossover trial | 78 | Awake BP ≥ 135/85 mmHg, asleep BP ≥ 120/70 mmHg, AHI ≥ 15. Taking < 33 anti-HTN medications. Excluded those with sever HTN > 180/110 mmHg and severe OSA. | Perindopril | Participants treated with either 10 mg perindopril 10 mg in a.m. with placebo at given in p.m. or 10 mg perindopril in p.m. and placebo in a.m. for 6 weeks. Then regimens switched and treated for 6 weeks. CPAP also added in last 8 weeks. | • Dipping Pattern  • Average daytime BP  (systolic & diastolic)  • Average nighttime BP:  (systolic & diastolic) |
| Yoshida et al., 2017  [51] | Case Study | 1 | Young adult male with severe OSA and prominent BP surge during sleep measured by TSP. History of 3 sleep-onset strokes. Non-compliant with CPAP. | Doxazosin | Doxazosin 4 mg given at bedtime. Patient stroke free 2 years after intervention. | * Hypoxia-triggered nocturnal BP surge * Early morning BP |
| Ziegler et al., 2017  [48] | Blinded crossover | 31 | 3 office BP measurements > 140/90 mmHg, AHI > 10. Excluded those with BP > 180/105 mmHg, those taking certain medications affecting cardiovascular metrics or sleep. | Nebivolol  HCTZ | Single-blinded placebo taken for 2 weeks followed by either double-blinded nebivolol (5 mg/day for 2 weeks, then 10 mg/day for 4 weeks) or HCTZ (12.5 mg/day for 2 weeks, then 25 mg/day for 4 weeks). Then medications crossed over and treated with other medication for additional 6 weeks. | • Dipping Pattern  • Average daytime BP  (systolic & diastolic)  • Average nighttime BP: |

\*N: Number of Participants; ABP: Ambulatory Blood Pressure; TSP: Trigger Systolic Pressure; ER: Extended Release; AHI: Apnea-Hypopnea Index; CPAP: Continuous Positive Airway Pressure; HCTZ: Hydrochlorothiazide.