**Optimizing Management of Nonemergent Acute Hypertension in a Community Hospital**

**Authors**: Davis H, Shearin S, Kline M, Barefoot L

**Practice Site:** Carteret Health Care, Morehead City, NC

**Background:** Non-emergent acute hypertension is a common finding in the hospital setting. Management strategies for these episodes vary widely between institutions. Available literature suggests that overuse of antihypertensives, especially intravenous agents, yields minimal benefit and increases adverse events. New antihypertensive treatment should be aimed at lowering blood pressure gradually using oral therapy when possible after addressing home antihypertensives and secondary causes.

**Purpose:** At our institution there is limited guidance for managing these episodes. The purpose of this research was to evaluate antihypertensive use before and after implementation of a provider order set addressing non-emergent acute hypertension in a community hospital.

**Methods:** This was a single-center, retrospective, observational, quality improvement study evaluating antihypertensive medication use before and after the implementation of an order set and providing education to optimize antihypertensive use for non-emergent acute hypertension. The primary outcome of the study was to assess the difference in the usage of intravenous antihypertensives during episodes of non-emergent acute hypertension. Secondary outcomes include assessing the time to initiation of home antihypertensives and cost reduction associated with the use of oral therapy versus intravenous therapy. Physician education will be offered regarding the order set developed. Patients to be assessed included non-pregnant adults receiving intravenous as needed antihypertensive therapy with a systolic blood pressure ≥ 180 or diastolic blood pressure ≥ 120 without signs of end organ damage. The change in overall use of oral antihypertensives to address non-emergent acute hypertension after order set implementation will also be assessed.

**Results:** Intravenous as needed antihypertensive usage was decreased after order set implementation and education was provided. A total of 41 patients were identified with as needed antihypertensives prior to order set education with 36 patients receiving intravenous agents and 5 patients receiving oral agents. A total of 34 patients were identified with as needed antihypertensives after order set education with 15 patients receiving intravenous agents and 19 patients receiving oral agents. Total intravenous antihypertensive doses decreased from 105 to 40 doses. Total oral antihypertensive doses increased from 18 to 49 doses. Patients with prescribed antihypertensive agents were restarted at the next scheduled dose more frequently in the post intervention group. Total cost for as needed antihypertensive agents was also reduced in the post intervention group.

**Conclusion:** After the non-emergent acute hypertension order set implementation and education, overall usage of intravenous as needed antihypertensives was decreased. Benefits of providing education and implementing a non-emergent acute hypertension order set included, decreased use of intravenous antihypertensive usage, promoted use of oral antihypertensives, increased timely restart of home antihypertensives, addressed secondary causes, and reduced costs associated with as needed antihypertensive agents.