ABSTRACT

Hypertensive urgency is often a misnomer that encourages providers to aggressively treat an otherwise asymptomatic exam finding. The IV antihypertensives typically used to treat this tend to do more harm than good, and are usually not even indicated. We are aiming to reduce use of these IV antihypertensives in the hospital setting through a series of education events and an EHR orderset. Our initial data showed significant reduction in usage after education alone, and will soon be gathering usage data after implementing our EHR orderset earlier this year.

INTRODUCTION

Severe asymptomatic HTN (BP>180/110 without acute target organ damage, also called HTN urgency) is seen in up to 70% of patients hospitalized for various reasons. Contrary to the term HTN urgency, urgent treatment is NOT indicated for this commonly encountered problem that is not associated with imminent adverse cardio or cerebrovascular event. However, IV antihypertensive medication pushes (IV Hydralazine, Labetalol, Enalapril) are frequently used in hospitalized patients to aim for quick reduction of BP. Such use of IV medications is NOT indicated and potentially can lead to dizziness, falls, hypotension, increased length of hospital stay and associated health care costs. Our goal with this project is 30% reduction in IV antihypertensive doses used for adult hospitalized patients at ECU Health Medical Center in six months post EHR intervention.

MATERIALS & METHODS

We evaluated practice of IV antihypertensive use among internal medicine residents and various factors that contribute to this practice and the then gathered baseline data on the number of IV antihypertensive doses (labetalol, hydralazine, enalapril) administered on a general medicine floor. We completed multiple PDSA cycles focusing on provider education regarding best practice and optimal management of inpatient hypertension via grand rounds, visual material. We have implemented an order set in ECU Health EPIC EHR with the inpatient hypertension order set on Feb 1, 2023, we will collect data post intervention data ECU Health wide to determine the effect of this EHR order set on provider practice regarding IV antihypertensive doses ordered.

RESULTS

Preliminary data was obtained in 2019 as a pre-intervention data. From 2020 until Feb 2023, we have completed several educational interventions including: Surveys, formal didactic lectures, visual aids in high traffic areas, and hospital grand rounds. The usage of IV hydralazine, labetalol, enalapril showed an overall decrease in usage during all measured 6-month time frames. After implementation of the inpatient hypertension order set on Feb 1, 2023, we will collect data post intervention data in ECU Health wide to determine the effect of this EHR order set on provider practice regarding IV antihypertensive doses ordered.

DISCUSSION

Hypertension is a highly prevalent comorbidity in our community. If chronically uncontrolled, this can lead to chronic kidney disease, CVA etc. While Chronic HTN needs to be aggressively managed in ambulatory settings with lifestyle changes and medications with goals and treatment per guidelines to aim for gradual reduction over several weeks, rapid and overaggressive management in hospitalized patients is not indicated and can lead to adverse outcomes. While our initial provider education showed modest reduction in IV antihypertensive use, we see variability and inconsistency in ordering practice. An EHR order panel will offers a system wide, sustainable intervention and reduce variability in clinical practice and guide providers towards Evidence based appropriate inpatient hypertension management.

REFERENCES


Dr. Greeshma Sheri (mentor and faculty advisor)