

Impact of patient safety bundle on timely treatment of severe hypertension in obstetric patients

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Introduction/background/statement of problem. A California Pregnancy-Associated Mortality Review found 41% of all pregnancy related deaths in California from 2002-2007 preventable. Preeclampsia/eclampsia is a leading cause of pregnancy-related mortality in the immediate postpartum stage. Standardizing hypertension protocols based on Alliance for Innovation on Maternal Health (AIM) bundles in Illinois led to improvement in timely treatment of severe hypertension (41.5% to 78.9%).

Objectives/purpose/goal(s). On 11/1/19, Froedtert Hospital implemented a severe hypertension protocol, developed from the AIM patient safety bundle. This protocol outlines 3 algorithms with IV Labetalol, IV Hydralazine or Oral Nifedipine. We expect the protocol to increase the percentage of severely hypertensive patients receiving timely, evidence-based treatment.

Intervention or practice. We evaluated the patient population 6 months pre- and post-protocol implementation. Severely hypertensive patients were identified by two severe-range blood pressures (systolic ≥ 160 and/or diastolic ≥ 110) within 60 minutes, then evaluated to determine if they received treatment within 60 minutes and if they adhered to the protocol. Adherence was defined as correctly following the sequence until the blood pressure fell into an acceptable range, or the protocol was completed. Deviation type was defined as late or absent blood pressure readings, late or absent medication administration, incorrect medication dose or administration method, lack of relevant lab results within 24 hours of event, and lack of maternal oxygen and urine output monitoring.

Results. We have reviewed 500 opportunities to treat severe hypertension for 218 obstetric patients from May 1, 2019 to July 31, 2020. Of the 500 (250 pre-protocol, 250 post-protocol), 79 adhered to completion or their blood pressure resolved (34 pre-protocol, 45 post-protocol). The leading deviations were in order no medication administered (55% pre-protocol, 48% post-protocol), late blood pressure (21% pre-protocol, 27% post-protocol), followed by incorrect medication administration or dose (20% pre-protocol, 19% post-protocol). White or Caucasian patients received adhered protocol intervention 19% of the time vs. Black or African American patients at 13%.

Conclusions (lessons learned, applicability, etc.). Standardizing protocol improved medication administration and deviation. Instances of late BP readings worsened post-protocol. This effort will continue to evaluate and monitor adherence to the hypertension protocol bundle, and implement interventions to improve adherence.

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