Implementing A Severe Maternal Hypertension Protocol

Maureen Marra, M.D.
Erin R. Wilcox, BSN, RNC-OB

Baptist Health Louisville

Increasing Maternal Morbidity and Mortality

- The United States continues to see increasing rates of maternal morbidity and mortality while other developed nation’s rates decline.

Since the Pregnancy Mortality Surveillance System was implemented, the number of reported pregnancy-related deaths in the United States steadily increased from 72 deaths per 100,000 live births in 1987 to 72.2 deaths per 100,000 live births in 2019. The graph below shows trends in pregnancy-related mortality and overall mortality in the United States between 1987 and 2015 (the latest available year of data).

<table>
<thead>
<tr>
<th>Year</th>
<th>Pregnancy-Related Mortality (per 100,000 live births)</th>
<th>Overall Mortality (per 100,000 live births)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1987</td>
<td>72</td>
<td>7</td>
</tr>
<tr>
<td>1990</td>
<td>72.2</td>
<td>7.5</td>
</tr>
<tr>
<td>1997</td>
<td>72.4</td>
<td>7.6</td>
</tr>
<tr>
<td>2006</td>
<td>72.6</td>
<td>7.9</td>
</tr>
<tr>
<td>2015</td>
<td>72.2</td>
<td>8.1</td>
</tr>
</tbody>
</table>


---

Algorithm

Severe Maternal Hypertension Treatment Algorithm

Severely elevated SBP ≥ 160 and/or DBP ≥ 105 persisting for 15 min

- Lancetadil 20 mg, 2 doses
- Top 2 doses浓浓的降压药物
- Repeat BP after 1 hour and repeat if SBP > 160 or DBP > 105
- Repeat BP after 1 hour and repeat if SBP > 160 or DBP > 105
- Repeat BP after 1 hour and repeat if SBP > 160 or DBP > 105
- Repeat BP after 1 hour and repeat if SBP > 160 or DBP > 105

BP Surveillance
- Every 10 minutes: X1 hour
- Then every 15 min X1 hour
- Then every 30 min X1 hour
- Then every hour for 4 hours

Review Process

- Staff turn in a “Case Review” form for HTN patients to trigger audit.
- Cases reviewed by OB Medical Quality physician.
- Outliers are brought to the Women’s and Children’s Patient Care Committee for further discussion and follow-up.

References


Outcomes

- Any patients identified as meeting the criteria for treatment based on the algorithm were reviewed by an OB quality physician reviewer.
- 32 patients were identified as meeting criteria or SBP ≥ 160 and/or DBP ≥105 persisting for 15 minutes.
- 27 patients were treated with 60 min goal time.
- 5 patients were treated > 60 minutes: 3 Intrapartum, 2 postpartum.

Implications

- Ongoing education of nursing and physician staff is necessary to continue improvement of outcomes.
- Opportunities exist to improve timing of treatment and adherence to the recommended frequency of blood pressure readings.
- Development of a partnership with the Emergency Department to identify patients and initiate treatment is key to a successful process.

Case Reviews January – August 2019

- Staff turn in a “Case Review” form for HTN patients to trigger audit.
- Cases reviewed by OB Medical Quality physician.
- Outliers are brought to the Women’s and Children’s Patient Care Committee for further discussion and follow-up.