



Postpartum hypertension-The need for definition and classification

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Postpartum hypertension (PPHTN) is a critical topic because it is associated with some difficulties for both women and newborns, such as postpartum readmission and maternal death. In Japan, of 277 maternal deaths from 2010 to 2015, 30 deaths were due to pregnancy-related hypertension, of which 11 (37%) occurred postpartum [1]. In the United States, 7% of maternal deaths are due to pregnancy-related hypertension, of which ~70% occur postpartum [2]. PPHTN should be appropriately managed, however there is still much that is not clear; also, there is a lack of evidence for a clear management strategy [3]. Ushida et al. have defined new-onset PPHTN as multiple blood pressure readings of $\geq 140/90$ mmHg at least once between 1 day and 4 weeks postpartum, among normotensive women through antepartum and intrapartum [4]. In the study by Ushida et al., the independent risk factors for new-onset PPHTN [4] were the variables previously reported [5–10], in addition to nulliparous. Similar to previous reports, cesarean section (CS) was a risk factor for new-onset PPHTN, but it is interesting to note that emergency CS was a greater risk factor than scheduled CS [4]. Although the indications for emergency CS were not determined [4], it is possible that some new-onset PPHTN might be an atypical hypertensive disorder of pregnancy (HDP), assuming that some factors that lead to intrauterine hypoxia may be associated with emergency CS, even though HDP was not diagnosed. In addition, most risk factors overlap with the risk factors of HDP. Goel et al. reported that elevated antepartum serum levels of sFlt-1 have been observed in women with de novo PPHTN, suggesting that women with PPHTN may

represent a group with subclinical or unresolved preeclampsia [9]. However, external factors such as excessive fluid replacement during delivery [7] or postpartum pain and medications that cause vasoconstriction [11] may also be triggers for new-onset PPHTN. Further studies are needed to clarify the definition and classification of PPHTN, including both short-term and long-term prognosis.

Compliance with ethical standards

Conflict of interest The author declares no competing interests.

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