

## Preeclampsia and Intra-Abdominal Hypertension

Viroj Wiwanitkit\*

Hainan Medical University, Wiwanitkit House, Bangkhuae, Bangkok, Thailand

\*Corresponding author: Viroj Wiwanitkit, Hainan Medical University, Wiwanitkit House, Bangkhuae, Bangkok Thailand, E-mail: [wviroj@yahoo.com](mailto:wviroj@yahoo.com)

Preeclampsia is an important obstetric disorder. This disease becomes an important problem for many pregnant women and it can result in severe clinical problems including to death. Marshalov et al. reported their interesting findings and proposed that “*The results of our research present the first multi-factorial model of preeclampsia etiology, where the trigger mechanism is the abdominal hypertension syndrome* [1].” In fact, the exact etiology of preeclampsia is still unknown and it is believed to be a multifactorial disease. The underlying vascular problem is usually mentioned as important factor [2]. The hypothesis on the intra-abdominal hypertension induced preeclampsia is a new hypothesis proposed by Sawchuck et al., [3]. This concept is based on the basic physical mechanics on the pressure rule [3]. The intra-abdominal hypertension can be expected in any pregnant women who have significantly changes of abdominal cavity due to increasing size of uterus when the gestational age of the fetus increases. If we apply the concept of management of the intra-abdominal hypertension, relieving of the pressure, which is the important factor causing organ failure, should be urgently done [4]. This concept is concordant with classical gynecological principle for management of severe preeclampsia and eclampsia by termination of pregnancy. An “applied negative abdominal pressure device” is also proposed for management of preeclampsia [5].

For anesthesiology, the interesting question is “what should we concern if preeclampsia is an actual disease caused by intra-abdominal hypertension?”. For intra-abdominal hypertension in obstetric anesthesiology, Tyagi et al. noted that “*Normalization of intra-abdominal pressure after delivery was associated with better survival* [6].” And “*There was no correlation between intra-abdominal pressure and organ function or mortality* [6].” Also, it was recently approved that spinal anesthesia is not problematic in the patient with intra-abdominal hypertension [7]. Hence, using spinal anesthesia for cesarian section in case with pre-eclampsia should be safe. The major risk to be concern for anesthesia in any patients with intra-abdominal hypertension, which should include preeclampsia, is the development of respiratory problem [8]. Special precaution should be raised for prevention of aspiration and the good preparation of mechanical ventilation is required [8]. Whether the preeclampsia is an actual disease

Received date: 18 Oct 2017; Accepted date: 06 Nov 2017; Published date: 11 Nov 2017.

Citation: Wiwanitkit V (2017) Preeclampsia and Intra-Abdominal Hypertension. J Clin Anesth Manag 2(2): doi <http://dx.doi.org/10.16966/2470-9956.132>

Copyright: © 2017 Wiwanitkit V. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

caused by intra abdominal hypertension or not, the application of the basic anaesthesiological considerations for management of patients with intra abdominal hypertension can be useful for clinical management of the patients with preeclampsia undergone obstetric procedures.

### References

1. Marshalov DV, Shifman EM, Salov IA, Petrenko AP, Ioscovich A (2017) Preeclampsia is a Syndrome of Intra-Abdominal Hypertension in Pregnancy - would a Hypothesis become a Theory?. J Clin Anesth Manag 2.
2. Barry DR, Utzschneider KM, Tong J, Gaba K, Leotta DF, et al. (2015) Intraabdominal fat, insulin sensitivity, and cardiovascular risk factors in postpartum women with a history of preeclampsia. Am J Obstet Gynecol 213: 104.e1-11.
3. Sawchuck DJ, Wittmann BK (2014) Pre-eclampsia renamed and reframed: Intra-abdominal hypertension in pregnancy. Med Hypotheses 83: 619-632.
4. Malbrain ML, De Keulenaer BL, Oda J, De Laet I, De Waele JJ, et al. (2015) Intra-abdominal hypertension and abdominal compartment syndrome in burns, obesity, pregnancy, and general medicine. Anaesthesiol Intensive Ther 47: 228-240.
5. Sugerman HJ (2011) Hypothesis: preeclampsia is a venous disease secondary to an increased intra-abdominal pressure. Med Hypotheses.77: 841-849.
6. Tyagi A, Singh S, Kumar M, Sethi AK (2017) Intra-abdominal pressure and intra-abdominal hypertension in critically ill obstetric patients: a prospective cohort study. Int J Obstet Anesth 32: 33-40.
7. OzkanSeyhan T, Orhan-Sungur M, Basaran B, SavranKaradeniz M, Demircan F, et al. (2015) The effect of intra-abdominal pressure on sensory block level of single-shot spinal anesthesia for cesarean section: an observational study. Int J Obstet Anesth 24: 35-40.
8. Reske AP1, Schreiter D, Höhne C (2009) Intra-abdominal hypertension and abdominal compartment syndrome—basic knowledge and anesthesiological aspects. Anesthesiol Intensivmed Notfallmed Schmerzther 44: 336-342; quiz 343.