Introduction:
Tissue perfusion and oxygen delivery is low in patients with severe preeclampsia, which would explain multiple organ failure and death in these patients. The aim of this study was to determine the relationship between the base deficit and the risk of adverse maternal and perinatal outcomes.

Methods:
Retrospective multicenter cohort study included pregnant patients with severe preeclampsia admitted to six intensive care units at tertiary referral centers during a ten years period in Colombia. Clinical information was gathered from hospital medical records. The correlation of base deficit with adverse maternal outcomes was evaluated using logistic regression analysis. Outcomes were maternal death, acute kidney injury, HELLP syndrome, transfusion, eclampsia and extreme neonatal morbidity.

Results:
731 patients were included in the study, we found a total of 21 (2.8%) maternal deaths, the median calculated base deficit obtained was -5.5 meq/L. Patients with base deficit greater than -8.0meq/L had significantly higher mortality rates OR 3.02 (CI 1.26-7.2) P 0.013. This group of patients was also associated with a higher probability of developing a class 1 HELLP syndrome OR 1.7 (CI 1.02-2.82) P 0.03.
A more mild alteration in the base deficit (greater than -5.0meq/L) was related to the appearance of kidney injury OR 2.25 (CI 1.52-3.34) P 0.00 y complete HELLP OR 2.17 (CI 1.60-2.96) P 0.00.

Conclusion:
Base deficit is related to worse outcomes in patients with severe preeclampsia. According to our results, a cut-off point greater than -8meq/L, there is a higher risk of death and worse outcomes such as class 1 HELLP syndrome.