Abstract: Preeclampsia is a serious medical condition that can result in life threatening pregnancy complications for both the mother and fetus. It is important to catch this medical issue early in order to determine an appropriate plan of action. If left untreated the risk for obstetric mortality and other health complications increase.

Disclaimer: The purpose of this writing is to fulfill course requirements for BBH 411W and to stand as a personal writing sample, but the findings should not be treated as generalizable research.
Case Study: Preeclampsia 2

Summary of the Medical Condition
Preeclampsia is a serious medical condition that can arise during a pregnancy. Preeclampsia has the potential to be very detrimental to many biological systems. This medical condition typically causes high blood pressure in the mother and often progresses to kidney damage. In addition, the cardiovascular system and circulatory system are threatened due to the loss of blood from delivery because of lower intravascular volumes. Preeclampsia also causes complications to the central nervous system. Eclamptic convulsions are among the most dangerous occurrences with preeclampsia. In third world countries these convulsions are the reason for a large majority of maternal mortalities. The seizures often occur in 3 phases that result in respiratory and lactic acidosis. In addition, seizures carry the risk of head trauma, aspiration, and other dangerous complications.

This medical condition usually begins after 20 gestational weeks. Preeclampsia is very dangerous to both mother and fetus. If left untreated, the risk of obstetric mortality is elevated and the likelihood of the mother developing cardiovascular disease increases. Symptoms of Preeclampsia often present as high blood pressure and appearance of proteins in the mother’s urine. Preeclampsia can be identified by measuring blood pressure, through blood tests, urinalysis for the detection of protein.

Etiology
An exact cause of preeclampsia has yet to be identified. It is believed that this medical conditions begins in the placenta when the new blood vessels fail to develop properly. The poorly developed blood vessels are too narrow and seem to react differently to hormonal signaling. Inadequately developed blood vessels can cause insufficient blood flow to the uterus, damage to the vessels, and can potentially affect the immune system and certain genes. Risk factors of this medical condition include nulliparity, chronic hypertension, obesity, diabetes, and in some cases high altitude.

Case Study
Mrs. Smith is a 34 year old woman who is approximately 30 gestational weeks pregnant. She has had a very healthy and uneventful pregnancy. Mrs. Smith has no history of medical conditions and is not overweight or diabetic. This will be her very first pregnancy.

Mrs. Smith arrives at her scheduled check up to monitor fetal progress due to the patients older age. You discover that her blood pressure is elevated at 169/101 mmHG and following a urinalysis you observe that there is protein in the patients’ urine. After urgently rushing the patient to the hospital it is determined that she is preeclamptic.

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1 Coppage, K., Sibai, B., Glob. libr. women's med., (ISSN: 1756-2228) 2008; DOI 10.3843/GLOWM.10158
7 Ibid.
Considering that Mrs. Smith is an older mother and that this will be her very first birth, it makes sense medically that she is preeclamptic because those are two major risk factors of the condition.

Mrs. Smith is immediately placed on antihypertensive treatment and continuously monitored by a team of obstetricians, anesthesiologists, hematologists as well as a pediatric team as this is the standard practice for monitoring mothers who are preeclamptic. It is important to routinely monitor preeclamptic women due to the potential of comorbidity. Common comorbidities include chronic hypertension, autoimmune diseases, diabetes, obesity, renal disease or collagen vascular disorders.

There is no cure for preeclampsia and it does not seem to be a permanent medical issue. The only treatment for this medical condition is delivery of both the placenta and the fetus. Following delivery, it is recommended that the patient remain on antihypertensive medication for the duration of the postpartum period.

Prevention of this medical condition is somewhat of a controversial topic. One study suggests that women at high risk for the condition, such as Mrs. Smith, take low doses of aspirin to lower the risk, however, it has not been consistently shown to be significant treatment.

It has also been hypothesized that women at risk for preeclampsia take supplements of vitamin e and vitamin c, however, a recent study suggested that supplements are not recommended.

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11 Newson, Louise Ibid.