THE MANAGEMENT OF PREECLAMPSIA COMPLICATED BY HELLP SYNDROME

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INTRODUCTION

- Fatmawati Hospital in Jakarta, Indonesia
- Tertiary referral hospital
- MMR 502.2/100,000 in 2002
- The two leading causes
  - PPH (66.7%)
  - Preeclampsia complicated by HELLP syndrome (22.2%)
HELLP syndrome is a special type of severe preeclampsia that constitutes a management dilemma for obstetricians.

Iatrogenic preterm delivery increases the risk of adverse neonatal outcome.

The high maternal and perinatal morbidity that can result from this entity mandates continuing efforts to find an effective treatment.

Prolongation of pregnancy, in theory, is favorable for the fetus whereas it remains controversial whether the maternal condition is further jeopardized by expectant management.
OBJECTIVE:

To review the management of Preeclampsia complicated by HELLP syndrome.
Clinical Signs and Symptoms Of Preeclampsia complicated by HELLP syndrome

**Blood Pressure**
- > 160 mmHg systolic
- > 110 mmHg diastolic

**Pulmonary edema**
- Dyspnea
- Chest discomfort
- Tachypnea
- Tachycardia
- Pulmonary rate
- CXR: diffuse haziness in the lung fields with perihilar “butterfly” appearance

**Oliguria**
- < 500 ml per 24h

**Symptoms of end organ involvement**
- Headache or visual disturbance
- Clonus or deep tendon hyperreflexia
- Epigastric or Right upper quadrant pain

**Fetal involvement**
- Fetal growth impairment
- Oligohydramnios
- Absence of fetal movements
- Absent or reversed umbilical end-diastolic Doppler flow velocity waveforms

Modified from Bolte (2001).
Laboratory Diagnostic Criteria for HELLP syndrome*

**Hemolysis**
- Abnormal peripheral smear: schistocytes, burr cells and polychromasia
- Total bilirubin level > 12 mg/dL
- Lactate dehydrogenase level > 600U/L

**Elevated liver function**
- Serum aspartate amino transferase level > 70U/L
- Lactate dehydrogenase level >600 U/L

**Low platelet count**
- Platelet count < 100 000/mm3

*) The Laboratory diagnostic criteria used at the University of Tennessee Division of Maternal Fetal Medicine, Memphis TN. Witlin and Sibai (1999)
MANAGEMENT OF PRE-ECLAMPSIA COMPLICATED BY HELLP SYNDROME

Conservative management
Immediate termination → controversial

The only known cure → delivery

Expectant management has been reported with good success

The goal for managing preeclampsia/HELLP syndrome is protect the mother and fetus prevent disease progression to eclampsia.
Conservative management in the case of a HELLP-syndrome is not yet recommended as it has not been validated in prospective controlled studies.
Curtin WM., Weinstein L., 1999
Department of Obstetrics and Gynecology,
Medical College of Ohio, Toledo, USA.

Aggressive management of HELLP syndrome with expeditious delivery appears to yield the lowest perinatal mortality rates

Conservative management is not an option when HELLP syndrome occurs long before fetal viability has been reached.

Case control study comparing the onset of HELLP syndrome with conservative management < 28 weeks’ gestation

32 patients with HELLP syndrome vs 32 patients with PE but without HELLP

Except for the need for blood transfusion in women with HELLP syndrome, onset at 28.0 weeks’ gestation is not associated with an increased risk of adverse maternal or neonatal outcomes.
van Pampus MG., Wolf H, Westenberg SM, van der Post JAM, Bonsel GJ., Treffers PE. 

Retrospective cohort study
102 patients with or without HELLP

Expectant management results in similar maternal and perinatal outcome in both groups
Aggressive versus Expectant Management of Severe Preeclampsia at 28 to 32 weeks’ Gestation: A Randomized Controlled Trial.

Expectant management, with close monitoring of mother and fetus at a perinatal center, reduces neonatal complications and neonatal stay in the newborn intensive care unit.
The most important factors for successful management is meticulous medical management in a tertiary center by a skilled team, familiar with the clinical manifestations of HELLP syndrome.

It is universally agreed that a pregnancy from 32-34 weeks should be delivered. Before 32-34 weeks, expectant management to improve the condition of the mother and the fetus is Suggested.
High Care Unit for treatment HELLP syndrome, Fatmawati Hospital Jakarta, Indonesia.
The Conservative Treatment

1. Magnesium Sulphate
2. Antihypertensive agents
3. Volume expansion
4. Corticosteroids

Maternal Surveillance
- Blood pressure measurement
- Laboratory evaluation
- Hemodynamic monitoring

Fetal Surveillance
- Fetal Heart Monitoring
- Biophysical Profile
INDICATION FOR TERMINATION

- Gestational age 32 – 34 weeks
- Bleeding/DIC
- Abruptio placentae
- Eclampsia
- Abnormal fetal heart rate
CONCLUSION

Preeclampsia complicated by HELLP syndrome is one of the causes of Maternal Mortality.

Conservative management including the use of magnesium sulphate antihypertensive agent corticosteroids plasma volume expansion give better results compared to immediate termination.
Pregnant women with Preeclampsia complicated by HELLP syndrome < 32 weeks’ gestation

Refer to tertiary center

Expectant management at Intensive/High Care Unit

Magnesium Sulphate
Antihypertensive agents
Plasma volume expansion
Corticosteroids
Maternal Surveillance
- Blood pressure measurement
- Laboratory evaluation
- Hemodynamic monitoring

Fetal Surveillance
- Fetal Heart Monitoring
- Biophysical Profile

Gestational age 32 – 34 weeks’
- Bleeding/DIC
- Abruptio Placentae
- Fetal Heart Abnormalities

Termination of the Pregnancy

Mother → Post Partum Monitoring

Infant → NICU/ High Care