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 perihiliar “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.

Durig P, Ferrier C, Schneider H, 1999.

Universitäts-Frauenklinik, Inselspital Bern.

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

Gardeil F., Gaffney G., Morrison JJ., 2001.
Department of Obstetrics & Gynaecology,
University College Hospital Galway.

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

Haddad B., Barton JR., Livingston JC., Chahine R., Sibai BM. Am. J. Obstet. Gynecol. 2000 .

- 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. Eur. J. Obstet & Gynecol and Rep Biol 1998

Retrospective cohort study

102 patients with or without HELLP

Expectant management results in similar maternal and perinatal outcome in both groups

Sibai BM., Mercer BM., Schiff E., Friedman SA. Am.J.Obstet.Gynecol. 1994.

- 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

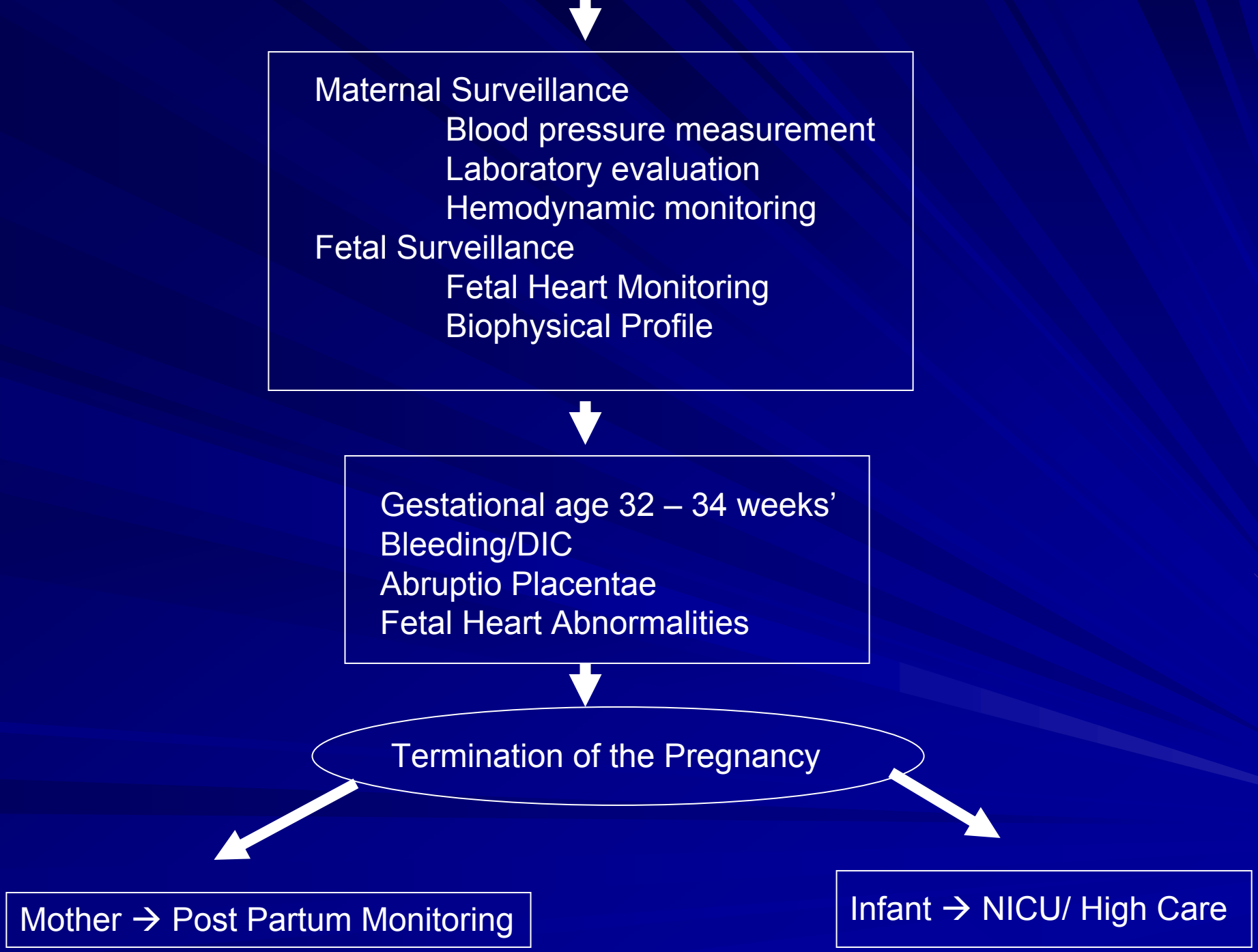
give better results compared to immediate termination

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


Thank you