

# Decision making in Preeclampsia

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## ABSTRACT

There are some most difficult and complex clinical scenarios in preeclampsia, which need immediate decisions, keeping in view the maternal interest paramount, and the fetal outcome secondary, also clinical situations in which both maternal and fetal interest are equally important. Decisiveness is the key to these complex clinical situations. There is a dilemma whether to follow the guidelines of different international bodies or to individualize the decisions on a case to case based on the clinicians' knowledge and experience.

**Keywords:** Preeclampsia, post partum period, hypertension

## INTRODUCTION

Decision making in preeclampsia is at the following levels.

- Establishing the diagnosis, especially in early onset of preeclampsia- 18-22 weeks
- In patients presenting before 20 weeks of gestation to accurately establish the aetiological factor for hypertension
- In early onset of preeclampsia to decide for or against continuation of the pregnancy up to 34 weeks.
- Decision making regarding the mode of the delivery in patients > 34 weeks
- Evaluating and deciding convulsions in the post partum period up to 6 weeks without hypertension or proteinuria
- Deciding the mode of management in Acute respiratory distress syndrome (ARDS), Acute renal failure (ARF) complicating preeclampsia
- Deciding about the role of heparin in recurrent preeclampsia

The patients should be managed at a tertiary centre with a team approach, counseling the patients and relatives at every stage is important. There should be a balance between maternal and fetal considerations with a priority to save maternal life.

## REVIEWS

Sibaai in two scholarly reviews in 2003 and 2016 has divided preeclampsia based on the gestational age into early and late onset with reference patient of 34 weeks. EOPET - early onset of pre eclampsia is before 34 weeks and managed conservatively and delivered at 34 weeks. LOPET-late onset of preeclampsia is onset after 34 weeks and is managed conservatively upto 37-38 weeks and delivered. Hypit trial says that the gestational age at delivery is the single most defining factor for the neonatal outcome. Piers trial opined that the maternal mortality is 20 times higher in patients crossing 32 weeks of gestation. The degree of proteinuria is not an indicator for the severity of preeclampsia, and cannot be repeated. Delivery before 34 weeks is associated with adverse NICU outcomes like RDS, necrotizing enterocolitis, SGA neonates, thrombocytopenia less than one lakh/cu mm, abnormal liver enzymes and haemolytic anaemias are associated with adverse maternal and fetal outcomes. Increased systolic and diastolic blood pressure also caused adverse perinatal outcomes.

Ultimately the treating clinicians is the most appropriate person to take a decision the question arises whether in Indian conditions the guidelines and protocols of the RCOG, ACOG, AUS-NZ societies are valid and implementable

The FOGSI GESTOSIS group 2013-2014 has drafted the guidelines on hypertensive disorders of pregnancy after a lot of debate and deliberations by 50 eminent obstetricians which will be the basis for this discussion.

Lot of controversies and differing opinions have been converged into these guidelines. The basis for managing cases of preeclampsia is that we have to classify preeclampsia into early onset of preeclampsia < 34 weeks, and late onset of preeclampsia > 34 weeks, which are based on the gestation age maternal and fetal outcome. EOPET is the early onset of preeclampsia is basically a fetal disorder associated with placental dysfunction and reduction in placental volume, presence of IUFG abnormal Doppler, Low birth weight and adverse maternal and fetal outcome. LOPET late onset of preeclampsia > 34 weeks is maternal disorder with normal to larger placental volume, normal fetal growth, normal doppler, and normal birth weight, more favorable maternal and fetal outcome.

Complications like HELLP syndrome, abruption placenta and severe preeclampsia, feto placental insufficiency also influenced the decision making in preeclampsia co existing conditions like severe anemia, RHD, GDM, Sickle Cell Anemia also influence the decision making

The onset of hypertension and proteinuria before 20 weeks of pregnancy are a group of patients who need careful evaluation and proper management.

These patients should be evaluated for the causes of secondary hypertension like renal artery stenosis CRF, Pheochromocytoma, CVS causes, thyroid disorders and connective tissue disorders, and treatment instituted accordingly. APLAS and thrombophilia check are mandatory. SLE presents with hypertension proteinuria and diagnosis is by the demonstration of double stranded DNA antibodies. These group of patients are most difficult to manage because pregnancy has to be continued if necessary up to 34 to 36 weeks it needs a team approach by the obstetrician internist and cardiologist.

There are some cases which come under the banner of "Atypical pre eclampsia" which may be present without the classical signs of hypertension and proteinuria. The patient may present with partial HELLP syndrome, gestational oedema, convulsions should be considered under this category. also convulsions or neurological deficits come under this category in the late post partum period.

Once the diagnosis is established the most important decision to take is that whether to continue the pregnancy or deliver the patient after starting the antihypertensive management, and the anticonvulsant line of management.

In preeclampsia of early onset the patient is managed conservatively by antihypertensive drugs, maternal and fetal monitoring antenatal steroids one week before the delivery which is at 34 completed weeks of gestation. The patient's blood pressure is monitored every 4 hours, has also the signs of severe preeclampsia. The investigations like LFT, RFT, CBC, 24 hours proteins are monitored by weekly the decision to institute anti hypertensive therapy is taken at the cut off point of blood pressure(150/100) mmHg. The route of delivery depends on the presentation, EFW, bishop's score, and the type of pelvis, and the presence of any other obstetric complications. If the patient is delivered by CS a thorough preanaesthetic checkup is done with a failed intubation drill, regional anesthesia is preferred. If there is severe preeclampsia a decision is taken to conservatively manage the patient with anti convulsants ,anti hypertensives ,deferring the delivery by two weeks to ensure a better fetal outcome. The full loading dose followed by maintenance dose of MgSO<sub>4</sub> is given as in eclampsia.

There is no role for prophylactic MgSO<sub>4</sub>. The total dose of MgSO<sub>4</sub> should not exceeds 40 grams. If the patient develops eclampsia ,anti convulsants with MgSo<sub>4</sub> anti hypertensives, and immediate delivery is done .If a caesarian section is planned internist evaluation and pre anaesthetic check is done with a failed intubation drill. Regional anaesthesia is preferred . The option of C-Section should be considered if there is abruption placenta with a live fetus, status Eclampticus, poor bishop's score, and any other obstetric indication. Induction of labour should be done with appropriate doses of misoprostol as per the gestational age. Labour should be monitored partographically Epidural analgesia should be given in labour and the second stage should be closely monitored for intrapartum eclampsia.

During conservative management of pre eclampsia in EOPET or LOPET, delivery should be done if Patient develops high blood pressure readings ,severe headache, ARDS, HELLP, ARF ,placental abruption,thrombocytopenia, abnormal fetal Doppler, severe oligoamnios less than 5cm .

The patient with late onset of preeclampsia > 34 weeks should be admitted into the hospital enclosed maternal and fetal monitoring is done up to 36-37 weeks of gestation when they are delivered. The principles of management are the same.The route of delivery is individualized as per the obstetricians choice .

The patients with maternal, fetal indications for delivery, once established are managed as follows irrespective of the gestation age. These patients are immediately hospitalized and the anticonvulsant, antihypertensive line of management are started and the decision to deliver the fetal placental unit is taken immediately. There is no role for conservative management and continuation of pregnancy. The induction of labour is mostly done by intracervical folly's catheter followed by Misoprostol between 20-34 weeks, and induction of labour with misoprostol or emergency CS.The most important point is that the convulsion to delivery interval should be 12-18 hours to minimize the maternal morbidity and mortality due to the complications of eclampsia.<sup>1,2</sup>

'Stabilise the maternal condition and then proceed to deliver, rushed delivery in an unstable patient is dangerous'.

The obstetric management of eclampsia is the earliest delivery of the feto placental unit with a minimum of convulsion to delivery interval to optimize the maternal and fetal outcome .

Post partum eclampsias may present typically or atypically on day 5 to 4 to 6 weeks post delivery. Sometimes they present without hypertension and proteinuria. MgSO<sub>4</sub> is the first line therapy and CT and MRI evaluation is mandatory to rule out PRES. In some cases we may have to administer

anti convulsants like laevipril for patients resistant to  $MgSO_4$ .<sup>3,4,5</sup> PRES may present with neurological deficit, hemorrhage, in most of the patients it resolves. Unfractionated heparin is the treatment of choice in patients with cortical venous thrombosis.

Heparin is indicated if the patient has fulfilled the clinical and laboratory criteria for APLAS. Unfractionated or Low molecular weight heparin can be used from the first trimester upto term and also 6weeks post partum.<sup>6,7</sup>

**ARDS** developing in a preeclamptic patient in the antenatal period, labour, post delivery, post CS should be managed in the ICU. The patient suddenly develops respiratory distress, low oxygen saturation, which may be resistant to the treatment of ventilatory support.

The **ARF** in preeclampsia should be managed by peritoneal or haemodialysis the decision which should be swift and immediate.

Decision making in preeclampsia at every stage involves a multi disciplinary approach by the obstetrician, internist, perinatologist, Anesthetist, and counseling the patient and her family members at every stage to explain and educate about management options which will ensure a healthy maternal and fetal outcome. The blood bank should be alerted about the reservation of PCVS, FFPS, platelet concentrates and if necessary SDP. The advances in following the maternal condition in a HDU unit and the increasing use of fetal color Doppler and CTG monitoring, and the level three NICU set up have seen a paradigm shift of managing pre eclampsia from early delivery by the obstetrician as stand alone unit to a team approach to a more conservative management to optimize the maternal and fetal outcome .

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