Current views on the management of pregnancy toxaemia and eclampsia *

A Clinico-Pathological Review

By
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Toxaemia of Pregnancy and Eclampsia are still major problems in clinical obstetric practice in most countries of the world, and the pattern in the Asian region is no exception. Toxaemia of Pregnancy with its many pathological sequelae is still a major cause of maternal mortality and fetal wastage in Asia. But the problems of obstetric morbidity, (both apparent and hidden), seen in association with toxaemia of pregnancy, is considerably more extensive than the overtly apparent maternal and fetal mortality states. Therefore, it is not only pertinent, but also desirable, to briefly review the fetal and maternal hazards of pregnancy toxaemias including eclampsia, from a clinico-pathological viewpoint, before embarking on the current views concerning the management of this broad group of conditions.

FETAL HAZARDS

TABLE 1

FETAL HAZARDS

1. LOW BIRTH-WEIGHT BABY – Due to:
   (a) Premature
   (b) Dysmature
2. STILLBIRTH – Can Be:
   (a) Macerated
   (b) Fresh
3. ASPHYXIATED NEWBORN – Due to:
   (a) Placental Insufficiency
       (i) chronic (ii) acute
   (b) Accidental Haemorrhage
   (c) Narcotic Neonatal Depression
4. NEONATAL MORTALITY – Due to:
   (a) Asphyxia Neonatorum
   (b) Low Birth-Weight
   (c) Neonatal Infection
   (d) Metabolic Derangement

In Table 1 is summarised the possible clinico-pathological hazards that can be encountered by the fetus in pregnancy toxaemia, any one or more of which can contribute to perinatal mortality or to increasing neonatal morbidity.

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MATERNAL HAZARDS

TABLE II

MATERNAL HAZARDS

MATERNAL MORBIDITY
1. Eclampsia
2. Hypertensive Encephalopathy
3. Accidental Haemorrhage can result in:
(a) Haemorrhage
(b) Shock
(c) Acute Renal Failure
(d) Post-Partum Haemorrhage
(e) Hypo-Coagulopathy Problems
MATERNAL MORTALITY:
Can arise from any one or more of the above-mentioned morbidity states

In Table II is summarised, the possible clinico-pathological hazards that can be encountered by the mother in pregnancy toxaemias; any one or more of which can contribute to maternal mortality or to increasing maternal morbidity.

GENERAL FACTORS CONTRIBUTING TOWARDS REDUCTION IN MATERNAL AND FETAL HAZARDS IN TOXAEMIA OF PREGNANCY.

TABLE III

FACTORS CONTRIBUTING TOWARDS REDUCTION IN MATERNAL AND FETAL HAZARDS IN TOXAEMIA OF PREGNANCY

1.	Socio-Economic Enhancement			
2.	Health Education:			
	(a) Medical Staff			
	(b) Patients			
3.	Adequate Obstetric Services:			
	(a) Antenatal	Outpatient	(Preventive Medicine)	
		Inpatient		
	(b) Intra-Partum Care			
	(c) Flying Squad Service			
4.	Supportive Medical Social Services			
5.	Family Planning Services			
6.	Supportive Paediatric Neonatal Services			
7.	Supportive Maternal Intensive Care			

In Table III is summarised the possible factors that can contribute towards the reduction in not only the more apparent maternal and fetal mortality causes but also the less apparent (but more extensive) maternal and fetal morbidity states, seen in association with pregnancy toxaemias. The contents of Table III are self - explanatory.

With this brief review and understanding of the clinico-pathological problems of pregnancy toxaemias, the pronciples governing the management of pregnancy toxaemias can now be more readily rationalised and appreciated.

RECENT ADVANCES IN THE MANAGEMENT OF PRE-ECLAMPTIC TOXAEMIA OF PREGNANCY

TABLE IV

RECENT ADVANCES IN THE MANAGEMENT OF PRE-ECLAMPTIC TOXAEMIA OF PREGNANCY

1. Liberal Use of Ante-Natal Care — Preventive Medicine
2. Serial Assessemnt of Endocrinal State of Foeto-Placental Unit
3. Amniotic Fluid Biochemistry
4. Serial Amnioscopy/Amniocentesis Assessment
5. Continuous Electronic Monitoring of FH/Uterine Contractions in Labour
6. Foetal Blood Sampling in Labour
7. Liberal Philosophy of Planned Premature Delivery by:—
   (a) Induction of Labour
   (b) Elective LSCS and
   (c) Emergency LSCS/Forceps Delivery
8. Intensive Neonatal Paediatric Care:—
   (a) At Delivery
   (b) In Special Care Nursery
9. Use of Hypotensive Drugs

In Table IV is summarised the principles concerned with the "Recent Advances in the Management of Pre-Eclamptic Toxaemia of Pregnancy." It will be noted that these principles are concerned with the careful monitoring of the mother and the unborn fetus, for the early detection of the hazards of pregnancy toxaemias, both in the antepartum and in the intra-partum phases of pregnancy. The liberal philosophy of planned premature delivery of the fetus-at-risk, at the opportune moment, by premature induction of labour, caesarean section or assisted vaginal delivery, together with the intensive paediatric neonatal care of the high-risk neonate, have contributed towards the significantly improved fetal salvage is pregnnacy toxaemias in recent years.

The judicious use of hypotensive and tranquilli - sing therapeutic agents has helped to considerably reduce maternal morbidity in pregnancy toxaemias, and hence, indirectly prevent maternal deaths. But their contribution towards fetal salvage in pregnancy toxaemias is both debatable and doubtful.

RECENT ADVANCES IN THE MANAGEMENT OF ECLAMPSIA

TABLE V

RECENT ADVANCES IN THE MANAGEMENT OF ECLAMPSIA

1. "PREVENTION IS BETTER THAN CURE"
2. Flying Squad Service
3. Intensive Care of the Eclamptic Patient
4. "Lytic" Cocktails — multiple varieties with a common objective
5. Hypotensive Agents
6. Planned Termination of Pregnancy
   (a) At Opportune Moment
   (b) Method of Termination
7. Advances in Anaesthesiology
8. Intensive Neonatal Paediatric Care

In Table V is summarised the principles concerned with the "Recent Advances in the Management of Eclampsia". The importance of "preventing" the onset of "eclampsia" by the proper management of preeclampsia and chronic hypertension in pregnant women is quite obvious and requires little re-emphasis. The other principles, as detailed in Table V, are concerned primarily with the intensive monitoring of the "high-risk" mother to prevent maternal death, as well as the intensive paediatric care of the devitalised neonate.

FETAL INTENSIVE CARE

TABLE VI

FOETAL INTENSIVE CARE

1.	In the Antepartum Period
2.	In the Intrapartum Period
3.	Immediately at Birth
4.	In the Special Care Nursery

The role of "Fetal Intensive Care" in the management of pregnancy toxaemias for the attainment of maximal fetal salvage is well recognised. "Fetal Intensive Care," in its broadest sense, includes the comprehensive monitoring of the fetus in the antepartum and intrapartum phases of the pregnancy; in addition it includes the resuscitation of the asphyxiated fetus at birth and the continued care of "high-risk" newborn in the Special Care Nursery (Table VI). Such a programme of "Fetal Intensive Care" calls for collaborative teamwork between obstetrician, paediatrician, clinical biochemist, anaesthetist, and special care nursing staff, if maximal fetal salvage is to be attained.

SUMMARY

1. The fetal hazards of pregnancy toxaemias are listed and discussed.
2. The maternal hazards of pregnancy toxaemias are listed and discussed.
3. The general factors contributing towards the reduction in maternal and fetal hazards in toxaemias of pregnancy are reviewed.
4. Recent advances in the management of pre-eclamptic toxaemia of pregnancy are reviewed.
5. Recent advances in the management of eclampsia are reviewed.
6. The concept of "Fetal Intensive Care" and its role in improving fetal salvage in pregnancy toxaemias are high-lighted.