HYPERTENSION IN PREGNANCY STILL A SERIOUS PROBLEM IN MALAYSIA

PROFESSOR DR NIK MOHD NASRI ISMAIL

DEAN

FACULTY OF MEDICINE & HEALTH SCIENCES

ISLAMIC SCIENCE UNIVERSITY OF MALAYSIA

PRESIDENT

MALAYSIAN ASSOCIATION OF MATERNAL & NEONATAL HEALTH

M A M A N E H

INTRODUCTION

- Hypertensive Disorders of Pregnancy (HDP) remain as one of common causes of maternal mortality in Malaysia
- It is 2nd or 3rd most common cause
- Accounted for 14.1% of total maternal deaths between 1997 – 2000

  (Confidential Enquiry of Maternal Mortality , Malaysia 2005)

- Maternal mortality in Malaysia = 28.1 / 100,000
- Many could be prevented if more vigilant and aggressive management administered

CONFIDENTIAL ENQUIRY INTO MATERNAL DEATHS , MALAYSIA

- Started in 1991
- All maternal deaths reviewed by a Committee *Confidentially*
- Recommendations made and actions taken appropriately
- Last report 1997 - 2000

MATERNAL MORTALITY , MALAYSIA 1997 - 2000

Associated medical disorders	20.6 %
Post Partum Haemorrhage	19.1
Hypertensive Disorders of Pregnancy	14.1
Obstetric Embolism	13.9
Obstetric Trauma	8.8
Unspecified Complications	4.7
Puerperal Sepsis	3.1
Ectopic Pregnancy	2.4
Abortions	2.0
Anaesthesia Related	1.4
Others	8.9

CLASSIFICATION OF HDP 1997 - 2000

CLASSIFICATION	1997 NO.	1998 NO.	1999 NO.	2000 NO.
Pre-existing Hypertension	1	--	1	--
Gestational Hypertension	1	1	1	2
Pre-eclampsia – unspecified	1	--	1	--
Severe Pre-eclampsia	7	9	7	5
Eclampsia in pregnancy	6	13	11	5
Eclampsia in labour	5	3	2	--
Eclampsia in pueperium	3	6	1	1
TOTAL	**24**	**32**	**24**	**13**

CAUSES OF DEATH IN HDP

CAUSES OF DEATH	NO.
Eclampsia	31
Eclampsia with DIVC	3
Eclampsia with Intracranial haemorrhage	17
Pulmonary edema	14
Severe Pre-eclampsia with DIVC	4
Severe Pre-eclampsia with CVA	5
Severe Pre-eclampsia with intracranial h'age	4
Severe Pre-eclampsia with heart failure	8
Severe Pre-eclampsia with abruptio placenta	3
Severe Pre-eclampsia with HELLP syndrome	2
TOTAL	91

PROBLEM WITH THE PRIVATE PRACTITIONER

- A G5 P4 had normal antenatal care since 12 weeks . At 40 weeks , she was admitted to a private maternity home in labour and epigastric pain . BP was normal of about 130/80 mmHg . She delivered a baby girl .
- While repairing a 2° tear , she fitted and her BP = 170/105
- Nicardipine was given IV and BP stabiilised
- She fitted again an hour later and diazepam given.
- Still no referral was made as BP was stable ??
- 2 hours later she became worse and started to bleed and died 2 hours later

" INAPPROPRIATE HEROISM " &
" TOO LITTLE AND TOO LATE "

THE NAIVED MOTHER

- A 16 year girl who claimed unaware of pregnancy had no antenatal care . She presented for cough to a GP and was prescribed cough mixture.
- 3 days later , she fitted at home and was given traditional treatment until she became unconscious and then taken to hospital 16 hours later by the police .
- On admission , BP = 150 / 100 mmHg and solid proteinuria
- Ultrasound scan showed a 34 weeks pregnancy but IUD
- MgSO4 and Hydrallazine given . She delivered a stillborn .
- CT scan later showed cerebral infarct ,
- She died 5 days later due to multi-organ failure

H D P -- CLINICAL FEATURES

- Severe headache
- Visual disturbances
- Epigastric pain and/or vomiting
- Clonus
- Papilloedema
- Liver tenderness
- Platelet count falling to below 100,000 / ml
- Abnormal liver enzymes
- HELLP syndrome

HOW SHOULD BP BE TAKEN ?

- The woman should be rested and sitting at 45 – degree angle
- BP cuff should be of the appropriate size and be placed at level of the heart
- Multiple readings should be taken to confirm the diagnosis
- Korotkoff phase 5 is the appropriate one for DBP
- The method should be consistent
- Automated methods should be used with caution

HOW SHOULD PROTEINURIA BE MEASURED ?

- Usual screening test is by visual dipstick assessment
- A 2+ dipstick measurement can be taken as evidence of proteinuria
- A more accurate test should be on 24 – hr urine collection or protein creatinine ratio

HOW SHOULD THE WOMAN BE MONITORED ?

- BP should be checked every 15 mins. until woman is stabilised , then every 30 mins.
- BP should be checked every 4 hours if conservative Rx and woman is stable
- Full blood count (FBC)
- Liver function tests (LFT)
- Renal function tests (RFT)
- Close fluid balance monitoring

(FBC, LFT, RFT: daily)

HOW SHOULD THE FETUS BE ASSESSED ?

- In acute setting , CTG tracing is required
- Women in labour with severe PE should have continuous CTG monitoring
- If conservative Mx planned :

  Serial Ultrasound for fetal size , umbilical artery Doppler , liquor volume , daily CTG
- Serial assessment will allow timing of delivery to be optimised

MANAGEMENT OF SEVERE PRE-ECLAMPSIA

- Antihypertensive treatment should be started when SBP > 160 mmHg or DBP > 110 mmHg
- Drugs available :
  - Methyl dopa
  - Labetolol orally or IV in acute cases
  - Nifedipine orally
- Treatment is for prolongation of pregnancy esp. in moderate severity
- Clinicians to use agents they are familiar with

MANAGEMENT OF SEIZURES

- MgSO4 is now used for women with severe PE as prophylaxis against risk of Eclampsia
  (Magpie Study, Lancet 2002)
  → 58% reduced risk of seizure
- In less severe cases , MgSO4 is used after individual assessment
- Regular assessment of urine output , respiratory rate and oxygen saturation is important
- Fluid restriction to reduce fluid overload

CONTROL OF SEIZURES

- Basic principles of ABC : Airway , Breathing and Circulation to be followed
- $MgSO_4$ is the therapy of choice
- IV : loading dose of 4 g is given by infusion pump over 5 – 10 mins followed by infusion of 1 g / hour maintained for 24 hrs
- The drug is available to Midwives by IM for home delivery cases before transfer to hospital
- Recurrent seizure is given a bolus of 2 g $MgSO_4$ or increase infusion rate to 1.5 or 2 g / hour (Lancet 1995 ; 345 : 1455 – 63)

PLANNING DELIVERY

- Delivery is when woman is stable and senior personnel present
- If < 34 weeks , delivery can be deferred and steroids given
- If > 34 weeks , deliver as soon as possible
- PNM of > 34 wks or > 1.5 kg is < 10%
- Mode of delivery depends on presentation , fetal well being , cervical assessment
- 3rd stage : 5 units IM Syntocinon

MANAGEMENT AFTER DELIVERY

- Late seizures are possible
- 44% of eclampsia may occur postpartum

  (Douglas & Redman , 1994 *BMJ*)
- Antihypertensives should be continued after delivery and be required up to 3 months
- Women with pre-existing hypertension and proteinuria should be further investigated
- Ideally , preconceptional counselling to be offered and preventive therapies discussed

HDP

- Maternal deaths from HDP is still not reduced in Malaysia
- Many could have been prevented if more vigilant and aggressive treatment given
- Accuracy of BP measurement could be improved by proper training (W.H.O , 2001)
- Reliable measurement of protein in urine requires measurement on 24-hr urine in cases admitted for pre-eclampsia
- Testing for proteinuria should be routine for all antenatal cases

HDP

- MgSO4 is still not 100% used but steps taken to make it available to all including nurses who could administer IM
- The use of early delivery for treatment of PE / E should be the last therapeutic resort -- *Mother's life must be considered first*
- Although onset of PE / E / HDP may not be prevented , the complications can be minimized
- *Let us make pregnancy safer*

TERIMA KASIH

SYUKRAN

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