MANAGEMENT OF HYPERTENSION DURING PREGNANCY

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HYPERTENSION DURING PREGNANCY

NEMESIS OF THE OBSTETRICIAN

- MOST COMMON COMPLICATION AFTER ANAEMIA - affects about 10% of pregnancies
- CAUSE ?- PREGNANCY - CAN’T AVOID
- WHY & HOW ? - STILL A MYSTERY
- PROGRESSIVE DISORDER WITH UNPREDICTABLE COURSE
- WIDESPREAD MULTIORGAN INVOLVEMENT
- TREATMENT IS DIFFICULT AND UNSATISFACTORY
- POSSIBILITY OF UNEXPECTED, SUDDEN & SERIOUS COMPLICATIONS OF MOTHER & FETUS
- A MAJOR CAUSE OF M / F / N / morbidity & mortality
- RECURRENCE IN SUBSEQUENT PREGNANCY - 1st- 25%, 2nd- 56%, 3rd- 78%
HYPERTENSION DURING PREGNANCY

MANAGEMENT ASPECTS

- PREVENTION -
  - IDENTIFICATION OF HIGH RISK GROUP
  - PREVENTIVE MEASURES - SUCCESS?
  - AVOID PREGNANCY?

- DIAGNOSIS - EARLIER THE BETTER

- PATHOPHYSIOLOGY

- MONITORING / SURVEILLANCE

- TREATMENT
DIAGNOSIS - BP >140/90

1) PREGNANCY INDUCED HYPERTENSION (PIH)

MOSTLY YOUNG PRIMIS / >35, IN 3RD TRIMESTER (NOT BEFORE 20 WEEKS)

A) HYPERTENSION OF PREGNANCY -
BP >140 / 90 MM OF HG ALONE OR WITH MILD EDEMA

B) PREECLAMPSIA -

B.I) MILD PREECLAMPSIA -
BP <160/100, MILD EDEMA, PROTEINURIA Trace / 1+, MINIMAL, LIV ENZ
HYPERTENSION DURING PREGNANCY

DIAGNOSIS - BP >140/90

1) PREGNANCY INDUCED HYPERTENSION (PIH)

B.II) SEVERE PREECLAMPSIA -
BP >160/110, MARKED OEDEMA, PROTEINURIA 2+, HEADACHE, VISUAL DISTURBANCES, ABDOMINAL PAIN, OLIGURIA, THROMBOCYTOPENIA, BILIRUBIN, LIVER ENZYMES, CREATININE, FETAL GROWTH RETARDATION, PULMONARY OEDema

C) ECLAMPSIA -
WITH CONVULSION
HYPERTENSION DURING PREGNANCY

DIAGNOSIS - BP > 140/90

2) CHRONIC HYPERTENSION

ESSENTIAL / RENAL / Others

- MOSTLY OBESE, ELDERLY, PAROUS & LIKELY TO BE ON ANTIHYPERTENSIVE DRUGS
- USUALLY PREEXISTS / APPEARS EARLY (<20WKS) & PERSISTS POSTPARTUM
- END ORGAN DAMAGE MAYBE PRESENT

A) COINCIDENTAL - sustained high BP throughout pregnancy & postpartum

B) AGGRAVATED BY PREGNANCY -
  I) SUPERIMPOSED PREECLAMPSIA
  II) SUPERIMPOSED ECLAMPSIA
PATHOPHYSIOLOGY OF PIH

- VASOSPASM
- HAEMORRAGE & NECROSIS
- END ORGAN CHANGES
- REDUCED PLACENTAL PERFUSION > IUGR & FETAL DEATH
- INCREASED CARDIAC OUTPUT
- INCREASED EXTRA CELLULAR FLUID VOLUME
- HEMOCENTRATION
- HYPERCOAGULABILITY-DIC - REDUCED CLOTTING FACTORS - BLEEDING
- REDUCED GFR - Oliguria - Anuria
- NO ELECTROLYTIC IMBALANCE
PATHOPHYSIOLOGY OF PIH

SERIOUS COMPLICATIONS:

- HELLP SYNDROME
- ABRUPTIO PLACENTAE
- PULMONARY OEDEMA
- ACUTE RENAL FAILURE
- CEREBRAL HAEMORRHAGE
- VISUAL DISTURBANCES & BLINDNESS
- HEPATIC RUPTURE
- ELECTROLYTIC IMBALANCE
- POSTPARTUM COLLAPSE
HYPERTENSION DURING PREGNANCY

OBJECTIVES OF MANAGEMENT

- CURE / PREVENT PROGRESSION -
  - CLOSE MONITORING
- REDUCE BLOOD PRESSURE -TARGET- 140/90
- PROMOTE FETAL MATURITY
- PROLONG PREGNANCY (34 - 36 WEEKS)
  - TO ACHIEVE FETAL MATURITY ♦ TERMINATION
- DELIVERY - BEST DAY, BEST WAY & BEST PLACE
- PREVENT / MANAGE COMPLICATIONS
LOOK FOR APPEARANCE OF OMINOUS FEATURES

DAILY- RECORD B.P. 4 TIMES, MONITOR URINE OUTPUT & TEST FOR PROTEINURIA QUALI. / QUANT

ALT.DAY- BODY WEIGHT

EVERY 4TH DAY- URIC ACID, PLATELET COUNT, L.F.T. (LDH)

WEEKLY- CREATININE
DAILY - CLINICAL FOETAL MONITORING - FHS, FUNDAL Ht. ABDOMINAL GIRTH, LIQUOR, FETAL MOVEMENT COUNT, C.T.G

USG - ON ADMISSION & THEN 3 WEEKLY FOR FETAL BIOPHYSICAL PARAMETERS, PLACENTA AND LIQUOR VOLUME

DOPLLLER USG FOR PLACENTAL BLOOD FLOW VELOCITY EVERY 4TH DAY

L/S RATIO FOR MATURITY
HYPERTENSION DURING PREGNANCY

TREATMENT

- HOSPITALISATION - FOR MONITORING

- SEDATIVES -
  - DIAZEPAM / PHENOBARBITONE / ALPRAZOLAM ?

- NUTRITIONAL SUPPLEMENTS -
  - PROTEIN, IRON, CALCIUM (1000 MG), VITAMIN E & C, MICRONUTRIENTS

- STOP - SMOKING & ALCOHOL

GENERAL MEASURES
HYPERTENSION DURING PREGNANCY

TREATMENT

DRUGS

2) MAGNESIUM SULPHATE : -
   ❑ IN SEVERE PRE ECLAMPSIA
   ❑ 5 GM + 5 GM IM START FOLLOWED BY 5 GM IM 4 HOURLY

3) ALLYLESTRENOL : -
   ❑ TO PROMOTE FETAL GROWTH
   ❑ IN DOSES OF 5-10 Mg. 3 - 4 TIMES / DAY

4) DIURETICS ? : - AVOID
   ❑ ONLY IN PULMONARY OEDEMA, CCF, RENAL HYPERTENSION, SEVERE OLIGURIA / ANURIA.
   ❑ CHLOROTHIAZIDE, FUROSEMIDE
   ❑ SHOULD BE STOPED WELL BEFORE TERMINATION OF PREGNANCY
5) TOCOLYTICS: - ISOXSUPRINE +
   - IF IUGR IS DETECTED

6) GLUCOCORTICOID: - <34 WEEKS
   - BETAMETHASONE / DEXAMETHASONE - 12 MG, 2 DOSES AT 12 HOURS INTERVAL FOLLOWED BY WEEKLY INJ, TILL DELIVERY / 34 WEEKS.

7) THYROTROPIN RELEASING HORMONE: - ?
   - DOSE - 400 µGm, 8 HOURLY FOR 4 DOSES, TO PROMOTE FETAL MATURITY IF DELIVERY <34 WEEKS.
HYPERTENSION DURING PREGNANCY

TREATMENT  DELIVERY

BEST DAY - WHEN?

1 ) AT 36 WEEKS: - IN ALL CONTROLLED CASES
2 ) AFTER 32 WEEKS: - FOR FETAL SALVAGE
   - DECREASED FETAL MOVEMENT
   - SEVERE IUGR WITH OLIGOHYDRAMNIOUS
   - LATE DECELERATION WITH POOR VARIABILITY
   - REVERSED UMBILICAL DIASTOLIC BLOOD FLOW

3 ) ANY TIME: - IF PROGRESSIVE INSpite OF TREATMENT, WHEN -
   - BP >160 /100 MM OF HG
   - URINE OUTPUT < 400 ML / 24 HOURS
   - PLATELET COUNT < 50000 / CMM
   - SERUM CREATININE INCREASES PROGRESSIVELY
   - LDH >1000 IU / L
HYPERTENSION DURING PREGNANCY

TREATMENT

DELIVERY

BEST WAY - HOW ?

1 ) INDUCTION WITH OXYTOCIN: -After 36 weeks
   ■ IF FETAL CONDITION IS GOOD
   ■ CERVIX IS FAVOURABLE / Cerviprime
   ■ APPLICATION OF FORCEPS / VENTOUSE

2 ) BY LSCS: -
   ■ IF TERMINATION BEFORE 36 WEEKS
   ■ IN CASES OF MATERNAL / FETAL JEOPARDY
   ■ ANAESTHESIA - GA / EPIDURAL / SPINAL - BETTER LEFT TO ANAESTHETIST

BEST PLACE - WHERE ?- HIGH-RISK PREGNANCY UNIT / TERTIARY HOSPITAL / WELL EQUIPED HOSPITAL
1) PPH: - BE PREPARED TO FACE IT
   - UTERINE ATONY / DIC - FDP/BLEEDING DISORDER
   - OXYTOCICS / UTERINE MASSAGE / PACKING /
     UTERINE ARTERY LIGATION / INTERNAL ILIAC
     ARTERY LIGATION / HYSTERECTOMY

2) NEONATAL CARE: -
   - PRESENCE OF PEDITRICIAN IS A MUST
   - INCUBATOR IS HELPFUL

3) DRUGS: -
   - JUDICIOUS USE OF ANTIHYPERTENSIVES, IV FLUIDS,
     DIURETICS, & DIAZEPAM IN THE FIRST 48 HOURS

4) FOLLOW UP FOR 6 WEEKS
TOGETHER WE CAN MAKE IT A REALITY

Motherhood … .

.. A dream of every woman

Thank you