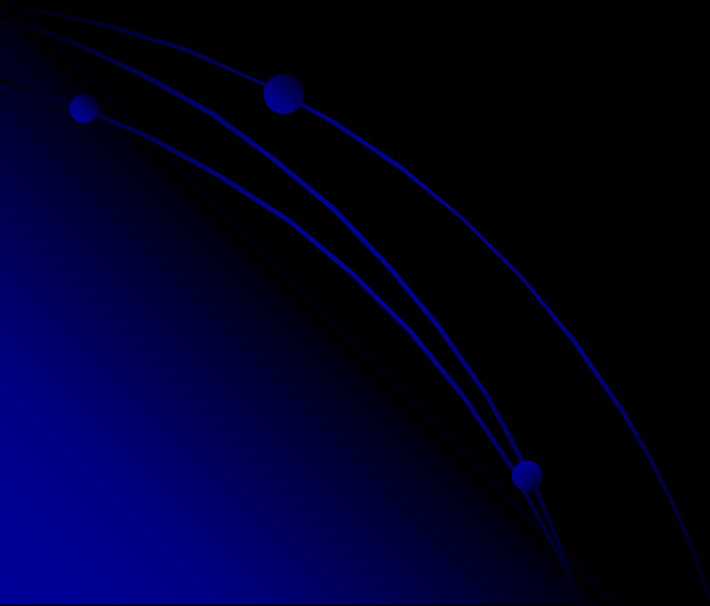
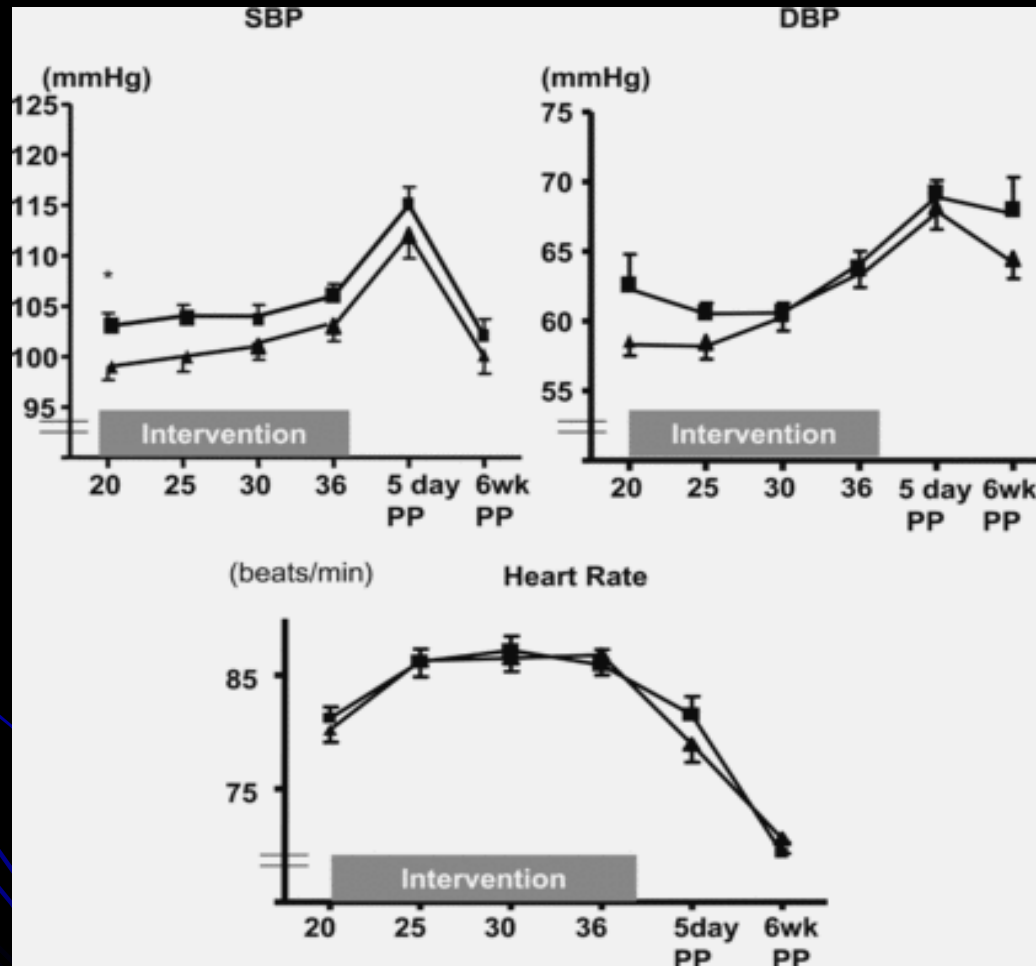


# **Hypertension in Pregnancy**

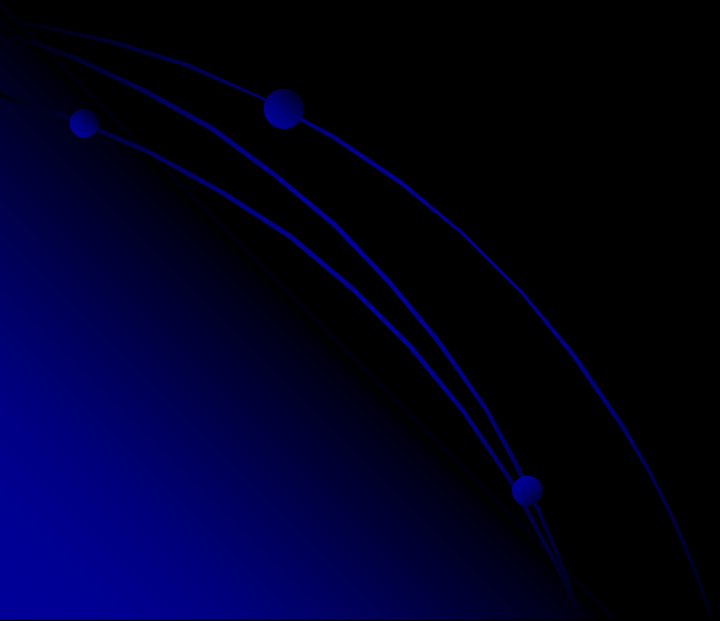


**Prof. Rajibul Alam**  
**Professor of Medicine**  
**Dinajpur Medical College**

# Normal physiological change in pregnancy



# Problem based Discussion





Early pregnancy <20 wks

- Higher threshold for treatment in contrast to DM.
- Even after physiological fall, if BP  $\geq 140/90$  mm Hg – should be treated.
- By treatment
  - No change in fetal and maternal outcome

### Chr. HTN

- Past History
- Drug History
- Metabolic syndrome
- Target organ damage

Patient is on **Statin** it should be **stopped**

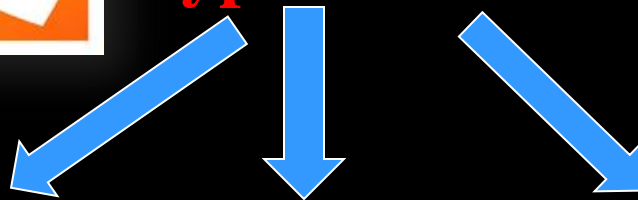


BP- 140/90 mm Hg



>20 Wks

# Hypertension >140/90



## Gestational

- ❖ Onset of HTN > 20 wks.
- ❖ Resolution 12 wks post partum

## PET

- ❖ Onset of HTN > 20 wks of preg. **Plus**
- ❖ 0.3 gm proteinuria/day
- ❖ BP measured on two occasions six hours apart

## Chronic

- ❖ Onset prior to pregnancy or <20 wks of preg.
- ❖ Not resolved 12 wks after postpartum

## Assessment:

Degree of HTN  
**Mild to moderate**  
 140-169/90-109

**Severe**  
 ≥170/110

## Laboratory:

Urine RME  
 RBS  
 Lipid profile  
 S. Creatinine  
 etc.



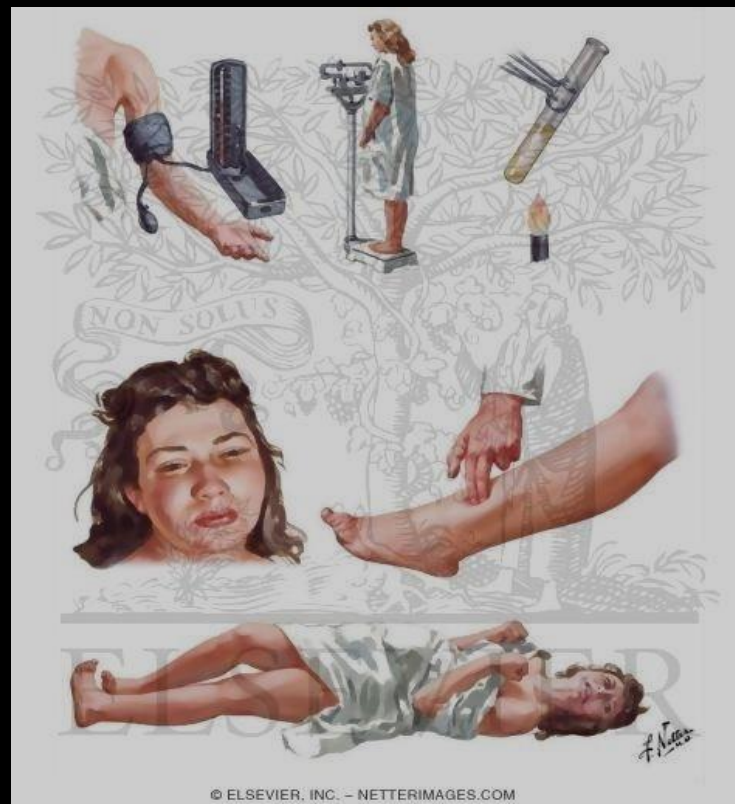


# Hypertension Medication

# Gestational HTN

- Without features of PET, maternal and fetal outcome is usually Normal
- With treatment, chance of developing Chronic HTN is Reduced





- ❖ Early diagnosis
- ❖ Medical supervision
- ❖ Timely delivery



- ❖ Safe delivery
- ❖ Safe mother
- ❖ Infant not required prolonged neonatal care / intensive care.

## Mild to moderate HTN (140-169/90-109 mm Hg)

### Treatment

- ❖ No difference in maternal and fetal outcome
- ❖ **Reduced** chance of **Chronic HTN**
- ❖ **PET** → treatment can be delayed to delivery



❖ Methyl dopa → 3 gm/24 hr

❖ Labetelol → 1200 mg/ day

❖ ACEi & ARBs → fetotoxic

**Target BP → 140-155/ 90-105 mm Hg**



Severe HTN (170/110 mm Hg)

## Treatment

- ❖ Hydralazine 5-10 mg IV
- ❖ Labetelol 10-20 mg IV
- ❖ Nifedipine 10-30 mg PO.



❖ To reduce maternal intracerebral haemorrhage

## What to do?

- ❖ Fetal monitoring.
- ❖ IV access.
- ❖ Reason to treat is maternal not fetal.
- ❖ May require ICU.

## Cautions:

- Avoid rapid reduction of BP
- Not to attempt normalization of BP
- May precipitate fetal distress.

# Chronic HTN



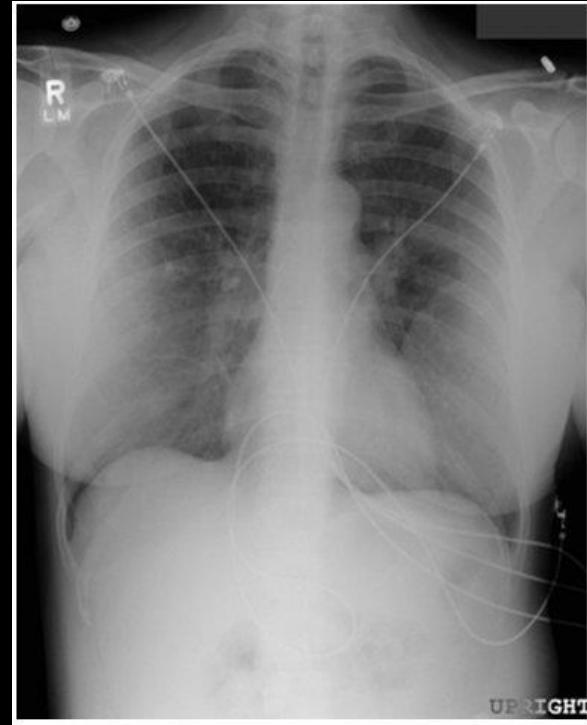
- ❖ Pregnancy outcome may not be related to control of HTN.

# Pulmonary oedema



## Reasons?

- ❖ Fluid overload.
- ❖ Reduced colloid osmotic pressure.
- ❖ Mostly following delivery.

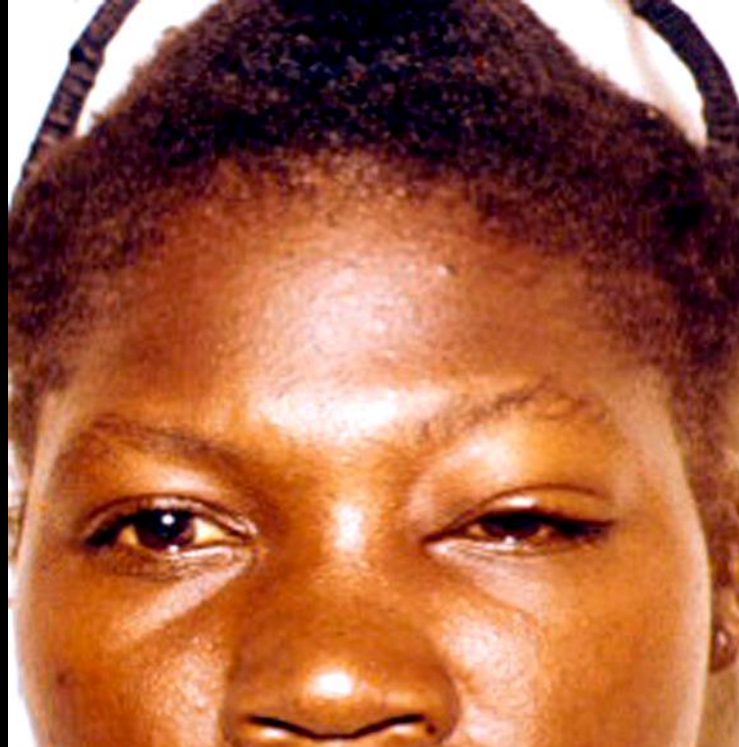


## What to do?

- ❖ Avoid overhydration.
- ❖ Restrict fluid.
- ❖ **Frusemide** 10-20 mg iv.



## Oliguria



- ❖ 25-30 ml/hr urine is acceptable.
- ❖ If less, 250-500 ml fluid.
- ❖ Postpartum diuresis common.
- ❖ Frusemide not required.

## Postpartum BP control



- ❖ Atenolol
- ❖ Nifedipine
- ❖ ACEi

- ❖ Diuretics → ↑ thirst
- ❖ Methyl dopa → depression

- ❖ Complications are not always predictable even after drug treatment .
- ❖ Particularly in chronic HTN.

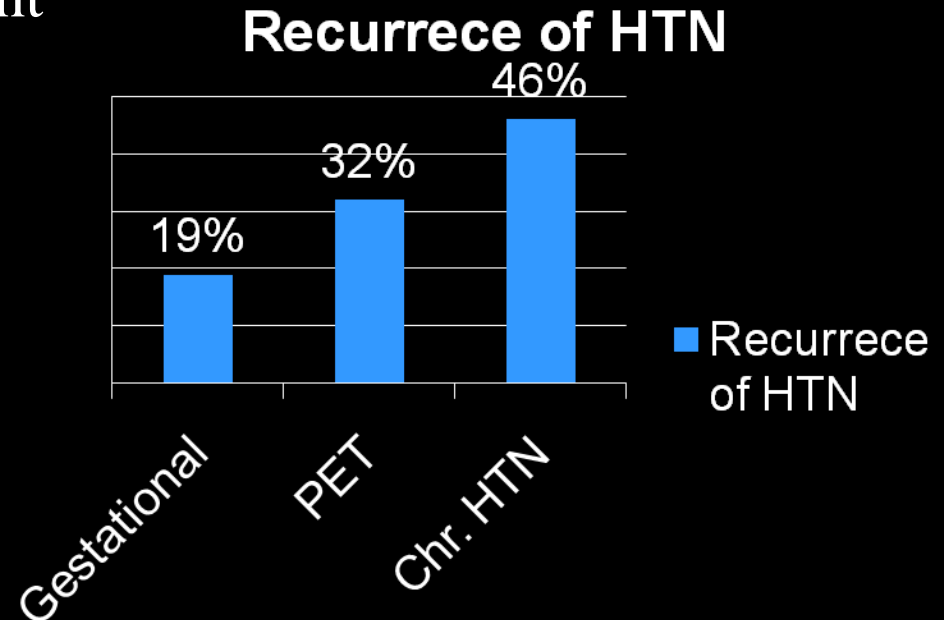


- ❖ Discussion about alteration of drugs.
- ❖ Education
- ❖ Optimal control of HTN.
- ❖ Risk of PET.

- ❖ Not always possible.
- ❖ In UK 50% pregnancy are unplanned

Recurrence of HTN in subsequent pregnancy:

- ❖ 19% **gestational**
- ❖ 32% **PET**
- ❖ 46% **Chronic HTN**



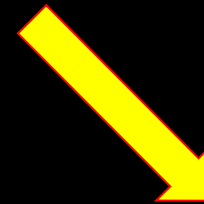
**More earlier onset, more recurrence**

# Long term sequelae

- ❖ Women with gestational HTN or PET
- ❖ Associated with
  - ❖ Dyslipidaemia
  - ❖ Obesity
  - ❖ Insulin resistance
  - ❖ HTN

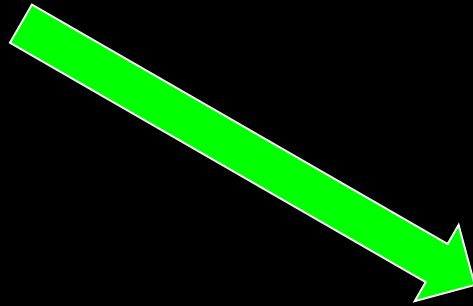


Metabolic syndrome



↑ risk of  
➤ IHD  
➤ Stroke

- ❖ At least annual check of BP
- ❖ Management of Metabolic syndrome

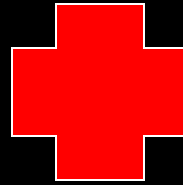


↓ risk of  
❖ IHD  
❖ Stroke

# Conclusion

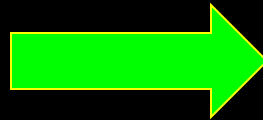
- ❖ Needs counseling.
- ❖ BP threshold for treatment is higher.
- ❖ Consideration of physiological changes of BP.
- ❖ No drug is teratogenic (Cat . “C”).
- ❖ Some are fetotoxic
- ❖ Hypertensive emergency → Reason to treat is maternal not fetal.
- ❖ Delivery may not be only solution if associated with Chr. HTN.





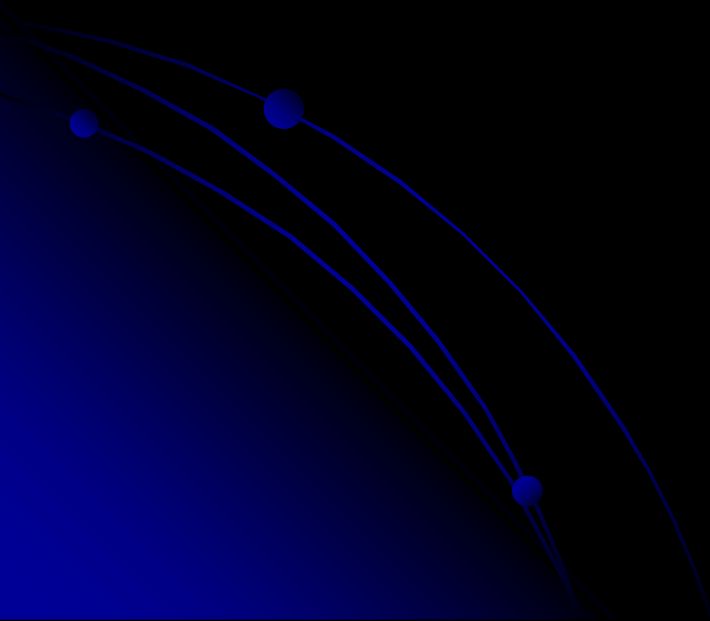
Outcome ?

**Well controlled BP  
Counseling**



# *Prevention ?*

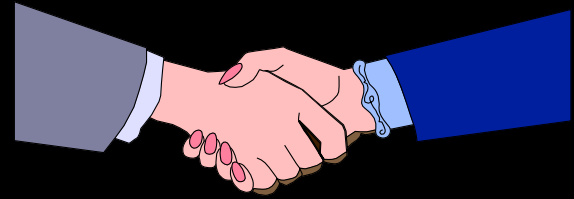
To Avoid Pregnancy ?? ---→ Dangerous





**Motherhood . . . .**

**.. A dream of every woman**



**TOGETHER WE CAN MAKE IT A REALITY**

**Thank you**