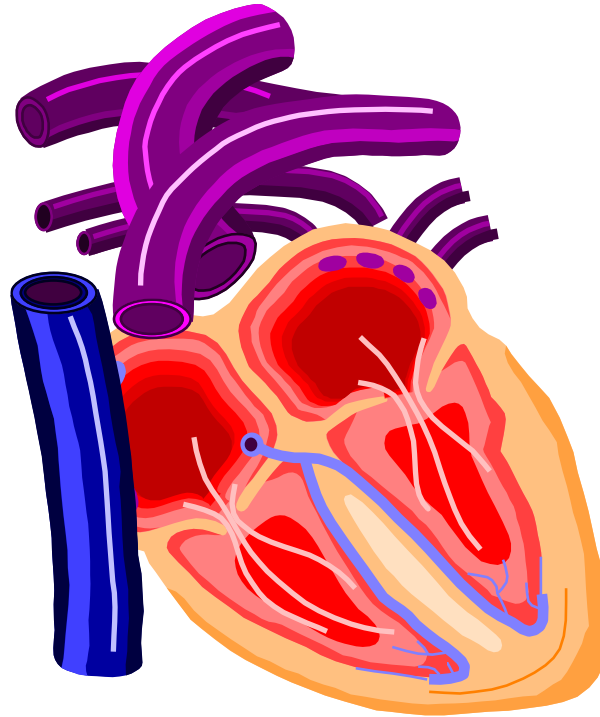


# HEART DISEASES IN PREGNANCY



# HRT Disease-----Physiology

- **↑ Heart rate by 10-15 beats/min.**
- **Displac. to the left&upward and rotated along its axis.**
- **↑ Pulse volume.**
- **↑ Cardiac volume(75ml).**

# HRT Disease-----Physiology

- **Heart Sounds:**

- 1st sound → exaggerated splitting.

- 2nd sound → no change

- 3rd sound → loud,easily heard.

- **Heart Murmurs:**

- systolic murmur → 90%.

- soft diastolic,transient → 19%.

- contineous murmur → 10%(Br.vasc)

# HRT Disease-----Physiology

- **E.C.G.**

- slight deviation of the axis to the lt.
- Q wave in lead 3      -ST segment dep.
- inverted T in L3      -prem.atr&vent bt.

- **Cardiac Output:**

- ↑ by 40%(↑ stroke vol.& Ht rate)
- max. 30wks -1st stag,30%,2nd stag,50%
- possible ↓ towards the end of preg.

# HRT Disease----Physiology

- O<sub>2</sub> consumption → at rest ↑ by 50%



To compensate



↑ C.O.P (40%, 3.5 → 6 l/m)

- C.V. changes due to:
  - ↑ estrogen      - prostanooids(prostacyc)
  - ↑ resistant to angiotensin.

# HRT Diseases In Pregnancy

- Incidence 1%
- Rheumatic = Congenital
- Maternal mortality 0.5%
- Rheumatic → Mitral stenosis 90%.
- Congenital → ASD,PDA 50%
- Maternal mortality is most likely in conditions where pulm.blood flow cannot be increased.

# HRT Disease---Fetal outcome

- Rheum.&cong.+no cyanos.→ Good
- Cyanotic → ↑ IUGR&Abortion
- Coarct. of aorta → ↑ fetal loss  
and IUGR due to inadeq.plac.perfus.

# HRT Disease In Pregnancy

- **Effect of pregn. on Ht dis.:**
  - **↑ blood volume&C.O.P → might aggravate the dis.**
- **Effect of Ht dis. on pregnancy:**
  - maternal death.**
  - infants → premature&SGA.**
  - all valvular dis. ↓ haemodynamic responses to preg.**



# NEW YORK HT ASSOC.

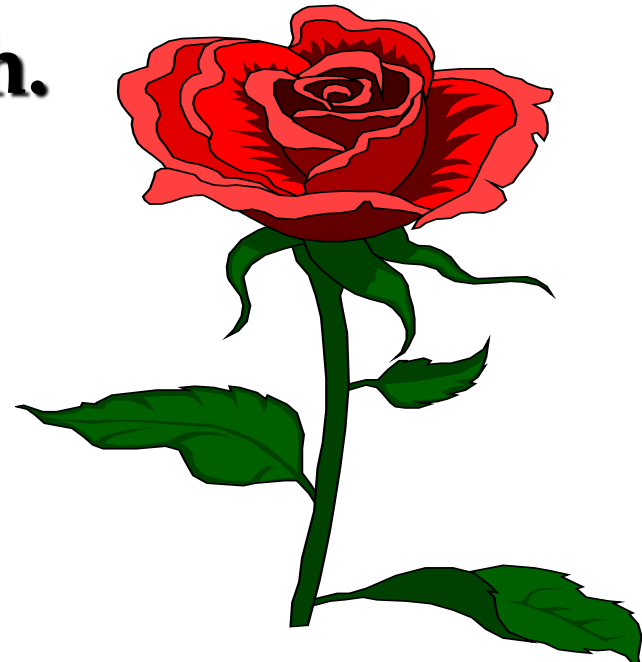
- Grade 1:** No limitation of physical activity.
- Grade2:** Ordinary physical activity causes discomfort.
- Grade3:** Minimal exertion causes discomfort.
- Grade4:** Unable to carry any physical activity without discomfort & have orthopnoea.

# Cardiac Disease---Outcome

- Presence and severity of pulmonary hypertension
- Presence of cyanosis
- Haemodynamic significance of the lesion
- Functional class.

# HRT Dis--Antenatal Manag.

- **prepregnancy clinic.**
- **Booked for hospital confinement.**
- **Combined clinic..**
- **Avoid abd.compression&supine posit.**
- **Report if dyspnea or cough.**
- **prevent anaemia.**
- **Treat any infection.**
- **Complete dental care.**



# HRT Dis.---Manag.of labour

- Inform cardiologist
- Hourly vital signs.
- Propped up on lateral side.
- Oxygen should be available.
- Pain relief → Epidural analgesia
  - prevent ↑ in cop throughout labour
  - allow prompt intervention(c/s,forcep)
- Antiacide and avoid dehyd,acidosis,inf.
- Prophylactic AB(cog.&prosth.valve)

# HRT Dis.Manag.In Labour

- 2nd stage:

- Should not be prolonged.

- Prophylactic forcep.or ventouse

- ➡ not necessary in all cases.

- 3rd stage:

- Ergometrine ➡ contraindicated

- Oxytocin 5units I.V or infusion.

# HRT Dis.Managment

- Puerperium:

- Congestive cardiac failure&pul.edema
- Majority of deaths occure after deliv.
- Early ambulation.
- Contraception.

