

# Cardiac Evaluation During Pregnancy

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# Cardiac Evaluation During Pregnancy

- History
  - HPI
  - Past Medical History
  - Family History
  - Social History
  - Review of Systems
- Physical Exam
- Diagnostic Data

# Difficulties of Evaluating Pregnant Patient

- Cardiologist Evaluating a Pregnant Patient
  - Fear
  - Insecurity
  - No Training
  - “Don’t Know Nothing About Birthing No Babies” (From Gone With The Wind and thousands of Cardiologists)

# Difficulties of Evaluating Pregnant Patient

- For the Obstetrician
  - Used to Healthy Moms
  - Complex Physiology
  - Have Enough To Worry About

# History

- Many of The Symptoms of Normal Pregnancy Would be Presumed Pathologic If Patient Was Not Pregnant
- Unusual Presentations
- Unusual Diseases
- “Normal Physical Exam”
- Normal test Results

# Symptoms: The Big 3

- Chest Pain
- Dyspnea
- Palpitations

# Chest Pain

- Aortic Dissection
  - History-
    - Tearing
    - Family History Marfans, Bicuspid Aortic Valve or Sudden Death
  - Exam
    - arachnodactyly
    - Aortic insufficiency
  - Diagnostic
    - CT Angiogram
    - TEE

# Chest Pain

- Pulmonary Embolus
  - Edema
  - Tachycardia
  - Shortness of Breath
  - Pleuritic Chest Pain
  - Oxygen Saturation Usually Low-But not Absolute

# Chest Pain

## Coronary Artery Disease

- Low Incidence Overall of MI- But Increased Risk During Pregnancy
- May Be Different Pathology,
  - May be Different Presentation
- Cardiac Markers – Troponin
- Can Do Treadmill, But Care At Level of Exercise
- Cardiac Cath

# Radiographic Studies

- Often Physicians “Frozen” By Fear Of Radiation Exposure
- If Mom Does Not Do Well-Baby Does not Do Well
- 10 Rads – Magic Number as too High
  - » Less Than 5 Magic Number on Low Side
  - CT Angiogram for PE

# Dyspnea

## Physiologic Dyspnea of Pregnancy

- High Prevalence
  - Usually Gradual
  - Usually Non debilitating
  - Physical Exam
    - JVP Should Be Normal
    - Carotid Should Be Brisk
    - S3- If Present Question Anemia, Thyroid, Cardiomyopathy

# Dyspnea

## History of Help

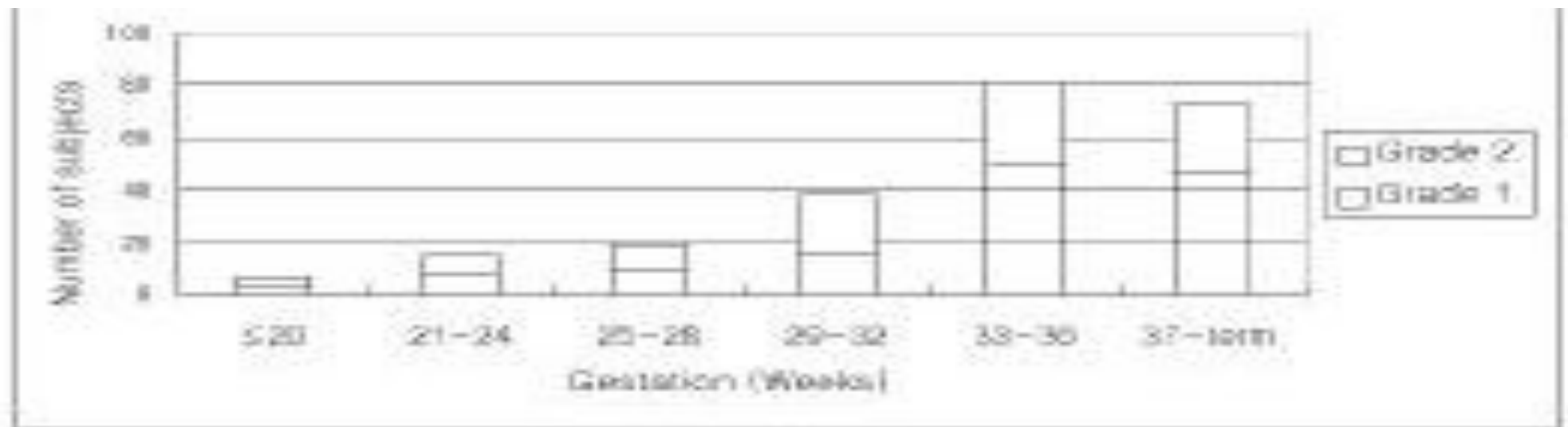
- Can Have Rare Pathology Unique to Pregnancy
  - Amniotic Fluid Embolism
    - L&D Or Uterine Manipulation, Trauma
    - Sudden Onset
  - Mediactions
    - Tocolytic Pulmonary Edema

# Dyspnea

- BNP Useful
- Chest X Ray
- CBC
- ABG (Rare)

# Dyspnea in Pregnancy

## Gradual Increase in Incidence and Severity



# Anatomy

- Baby Pushes Diaphragm up
- Ribs Expand out
  - Heart Laterally and Outwardly Displaced
  - Respiratory Alkalosis
- IVC Compression
- Chamber enlargement and Mild Hypertrophy

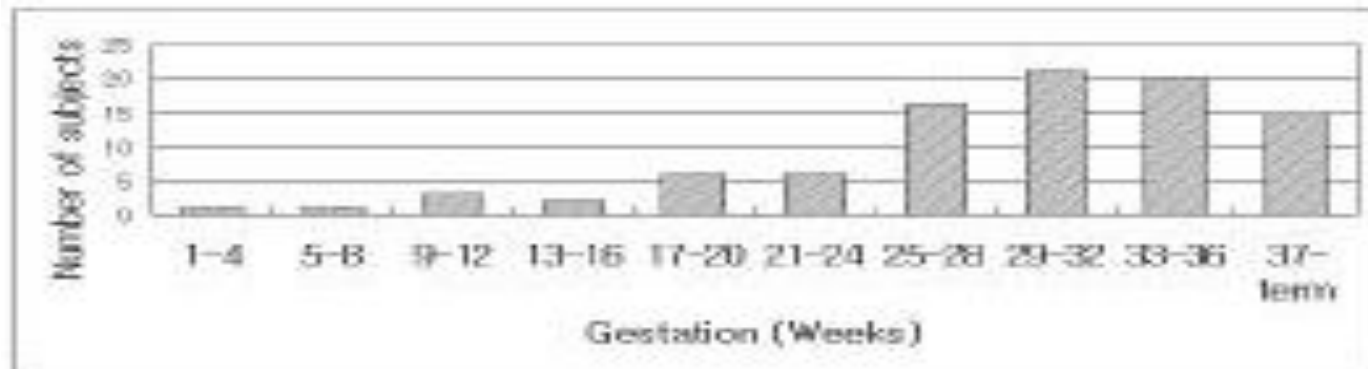
# Respiratory Changes

- Compensated respiratory alkalosis
- Lowered  $P_a\text{CO}_2$
- pH 7.44

# Goals

- Improve Symptoms
- Improve Prognosis

# Incidence of Palpitations



# Palpitations

- History
  - May Increase
  - Pattern, Onset, Regularity, Associated Symptoms, Length
  - Meds
  - Other Symptoms
  - How are they Doing The Rest of The Time

# Palpitations

Look For Causes

Exclude Structural heart Disease

- Exam
  - Thyroid Exam a biggie
  - Murmur-Almost Ubiquitous
- Other diagnostics
  - EKG (Axis, T, ST-T, Q)
  - Echo
  - Monitor
  - BMET, MG, TSH, CBC

# Cardiac Evaluation

- Basics Stay The Same
  - History And Physical Very Important
- Broaden Your Thoughts
- Know Your tools
- Take Care of The Mom
  - Worry About the Baby