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# Cardiology

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# Chief Complaint

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“Molly” is a 12 year old spayed female poodle cross with a history of weight loss and a chronic cough of 3 weeks duration.

# Molly

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# History

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- Cough started about 3 weeks ago
- Cough is worse at night
- Decreased exercise tolerance
- No history of being boarded in kennel
- DA2PVP, Rabies and Bordetella up to date
- Losing weight for the past 3 months



# Physical Examination

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Bright, alert and responsive

Temperature 38.8 degrees C

Heart Rate 110 bpm

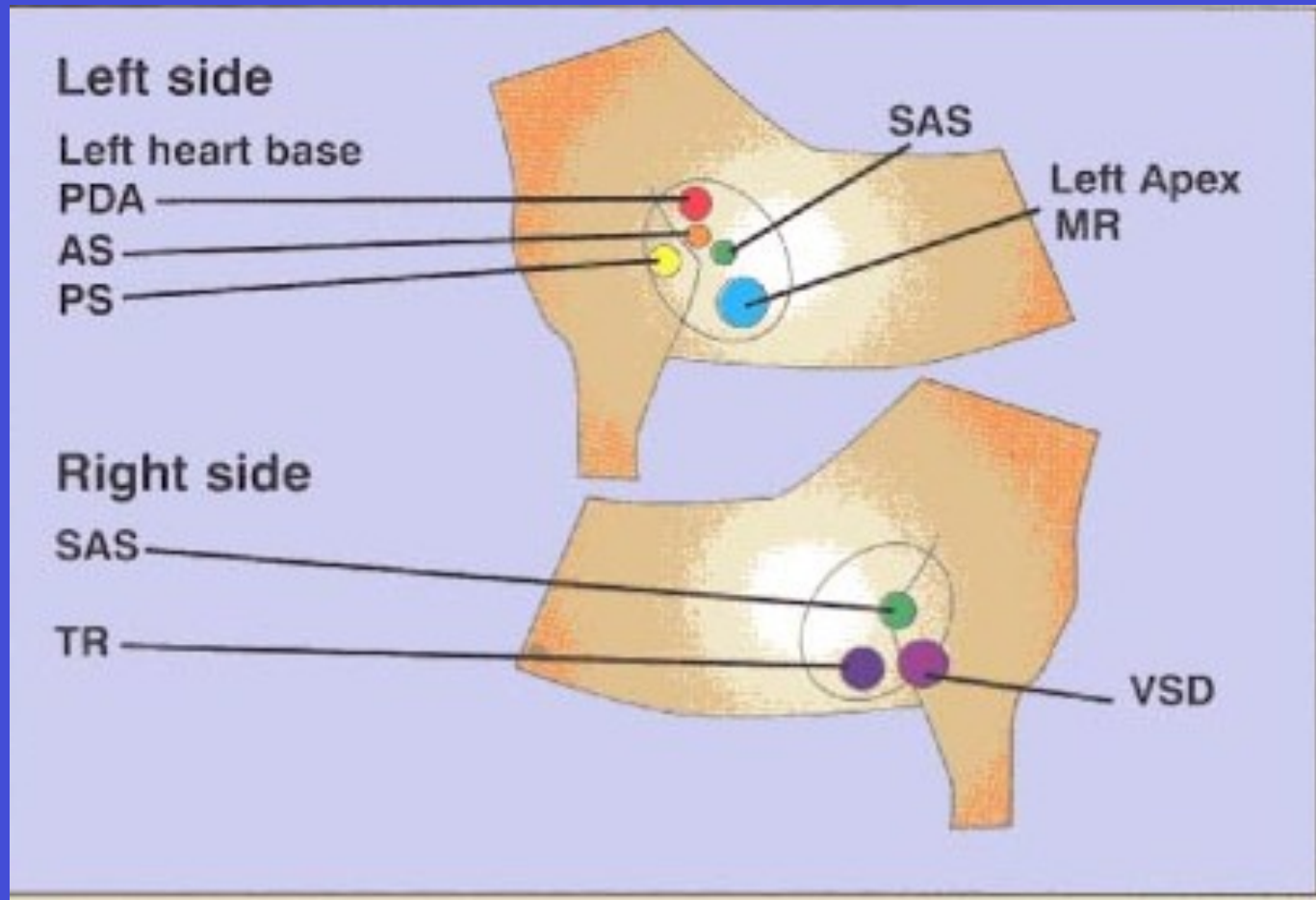
Respiratory Rate – 40 per minute

Grade 4/6 systolic mitral murmur – left apex

Pulmonary crackles – posterior dorsal lobes



# Cardiac Murmurs





# Abbreviations

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- PDA -Patent Ductos Arteriosis
- AS- Atrial Stenosis
- PS- Pulmonary Stenosis
- SAS - Sub Aortic Stenosis
- MR – Mitral Regurgitation
- TR – Tricuspid Regurgitation
- VSD – Ventricular Scptal Defect



# Problem List

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- Coughing – worse at night
- Losing Weight
- Mitral systolic murmur
- Pulmonary crackles
- Increased respiratory rate
- Decreased exercise intolerance





# Rule Outs

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- List all the Possible Diagnoses
- *This list is your Rule Out list*



# Rule Outs

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- DCM – Dilated Cardiomyopathy
- Mitral valve endocardiosis ( Mitral Regurgitation)  
MR
- Pericardial Effusion
- HCM – Hypertrophic Cardiomyopathy
- Tracheobronchitis – Kennel Cough
- Pneumonia



# Eliminating Rule Outs

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- Which diagnoses are unlikely from
- Clinical Signs
- History



# Rule Outs Based on HX/PE

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- DCM – usually large dogs e.g Dobermans
- MR – likely
- Pericardial Effusion – does not have a murmur
- HCM – more common in cats
- Tracheobronchitis – no history of boarding
- Pneumonia – does not have a murmur



# The Plan

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- What is your PLAN ?



# Plan

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- Thoracic Radiographs – Left Lateral and Ventral Dorsal views.
- CBC/Chemistry/Urinalysis

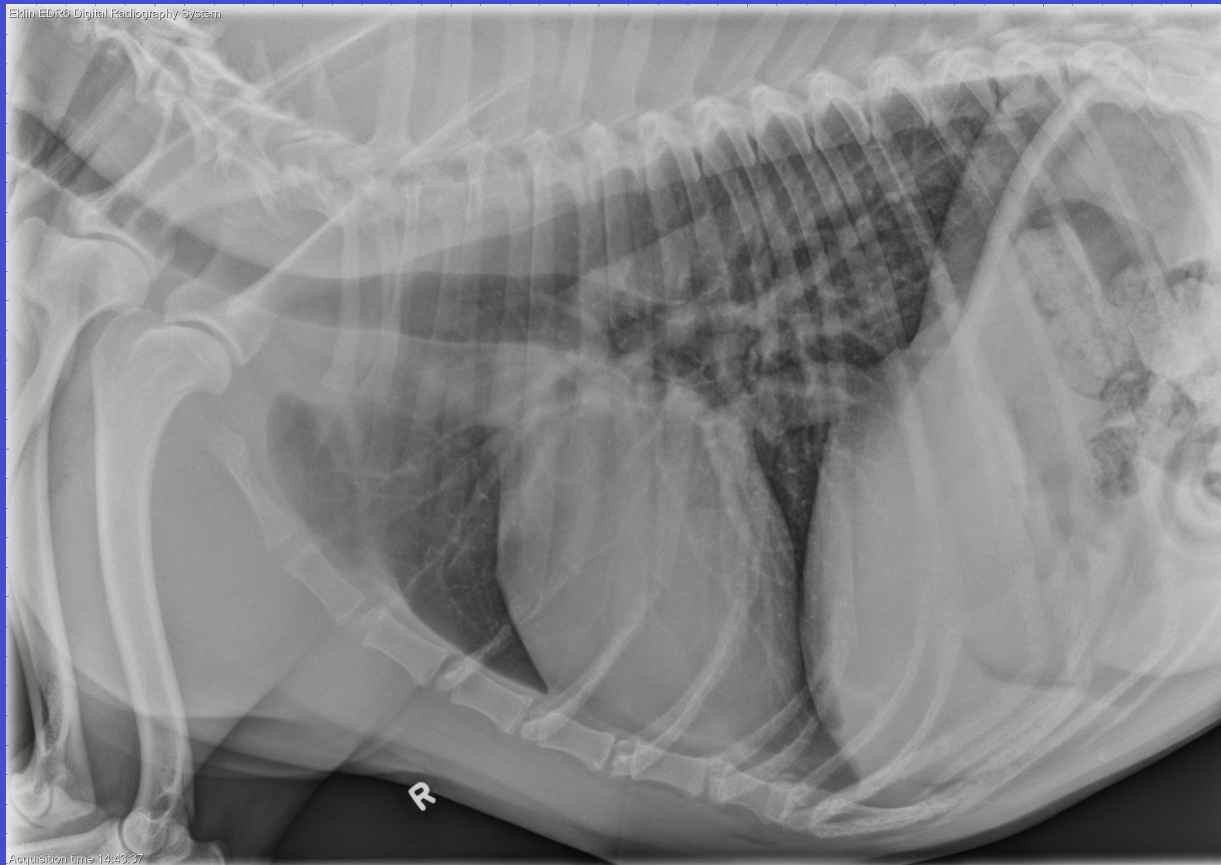


# Radiographs

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- Left Lateral View
- Ventral Dorsal View

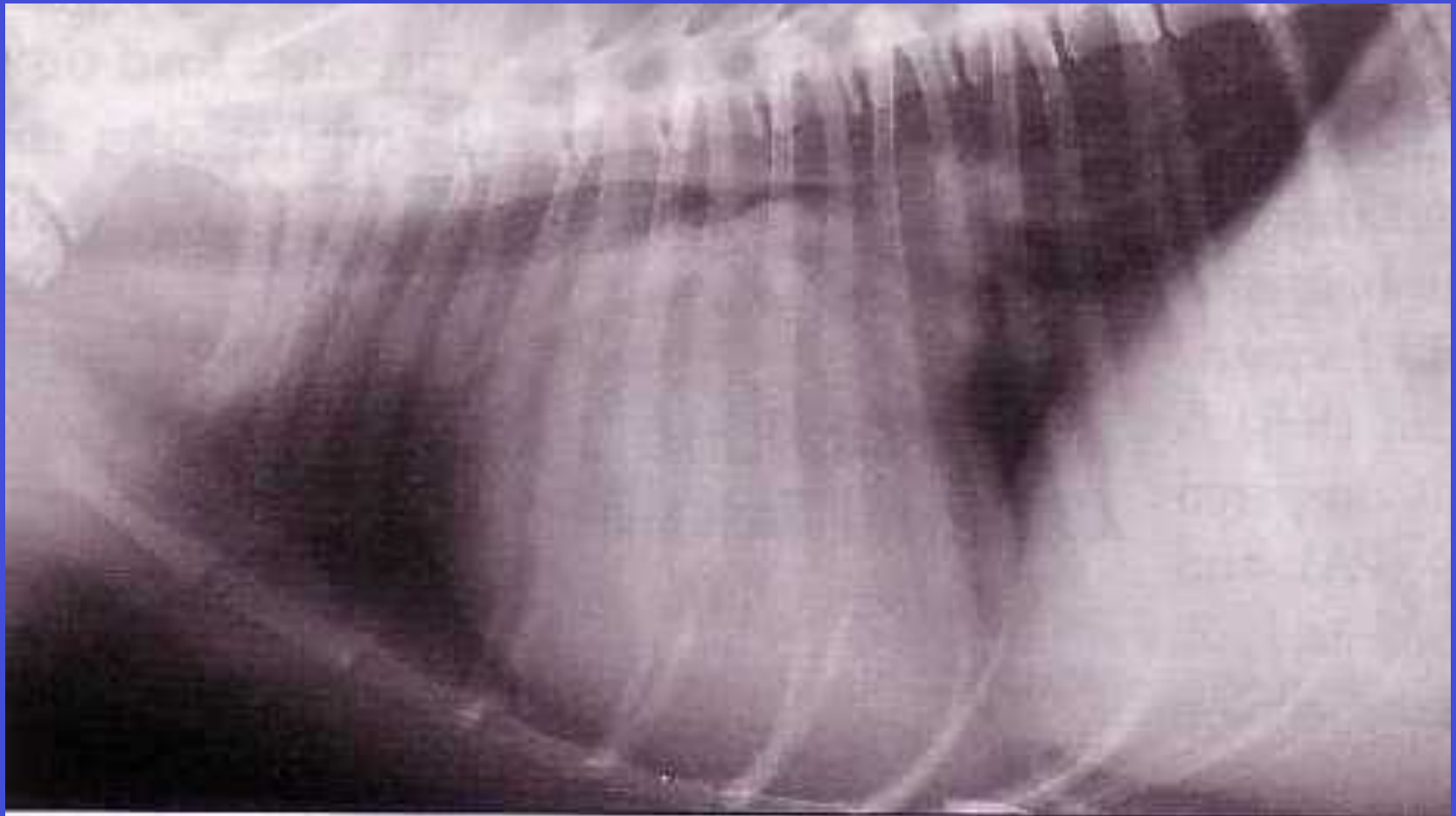
# Normal Thoracic Lateral View







# Left Lateral Thorax





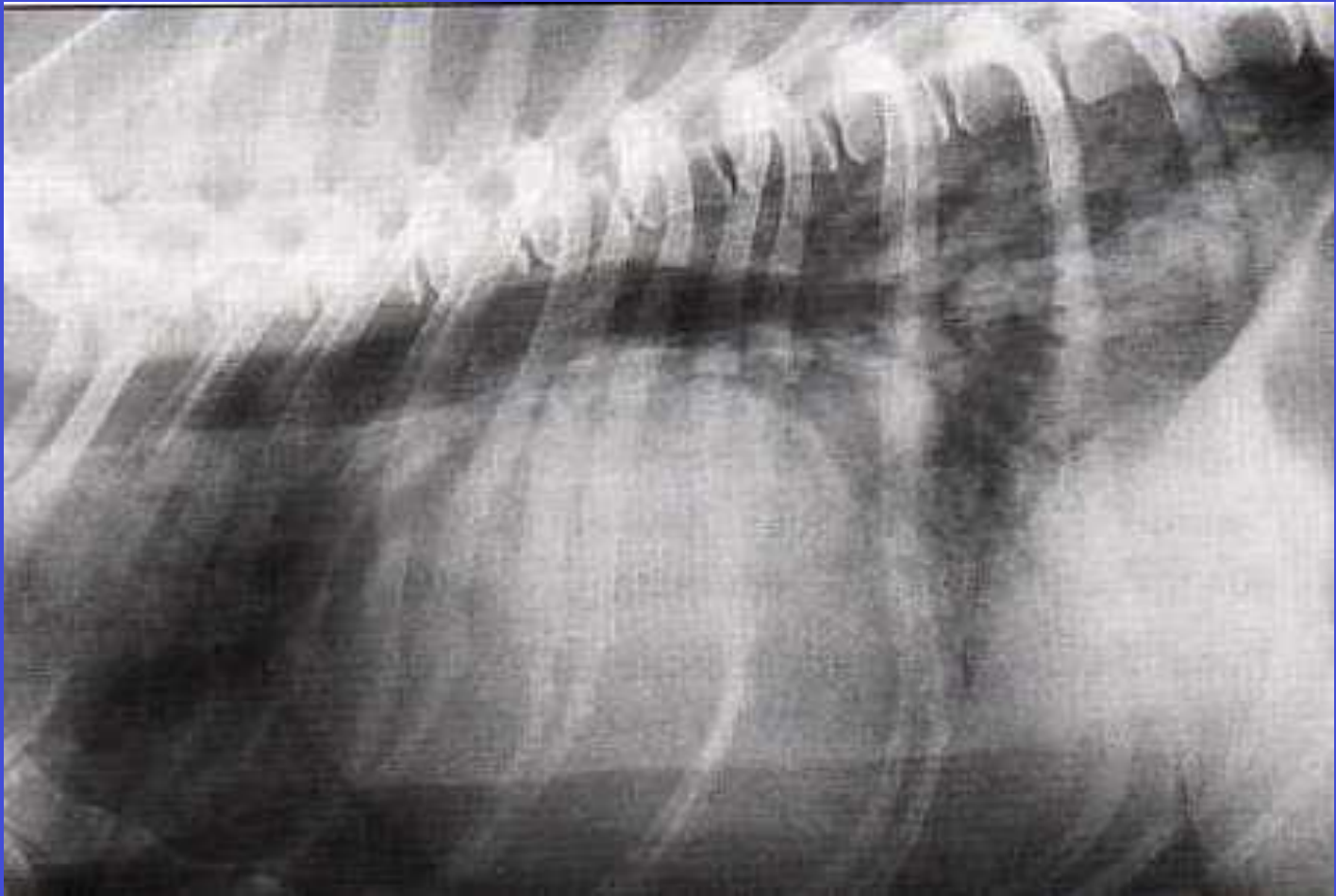
# Ventral Dorsal Thorax





# Right Lateral Thorax

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# Radiograph Evaluation

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- List all the radiographic lesions that you see on the previous radiographs



# Radiographic Lesions

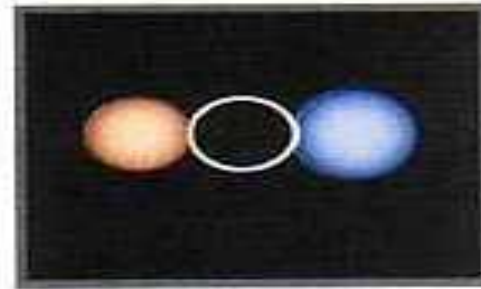
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- Left atrial enlargement
- Pulmonary edema
- Elevation of the trachea
- Narrowing of main stem bronchus



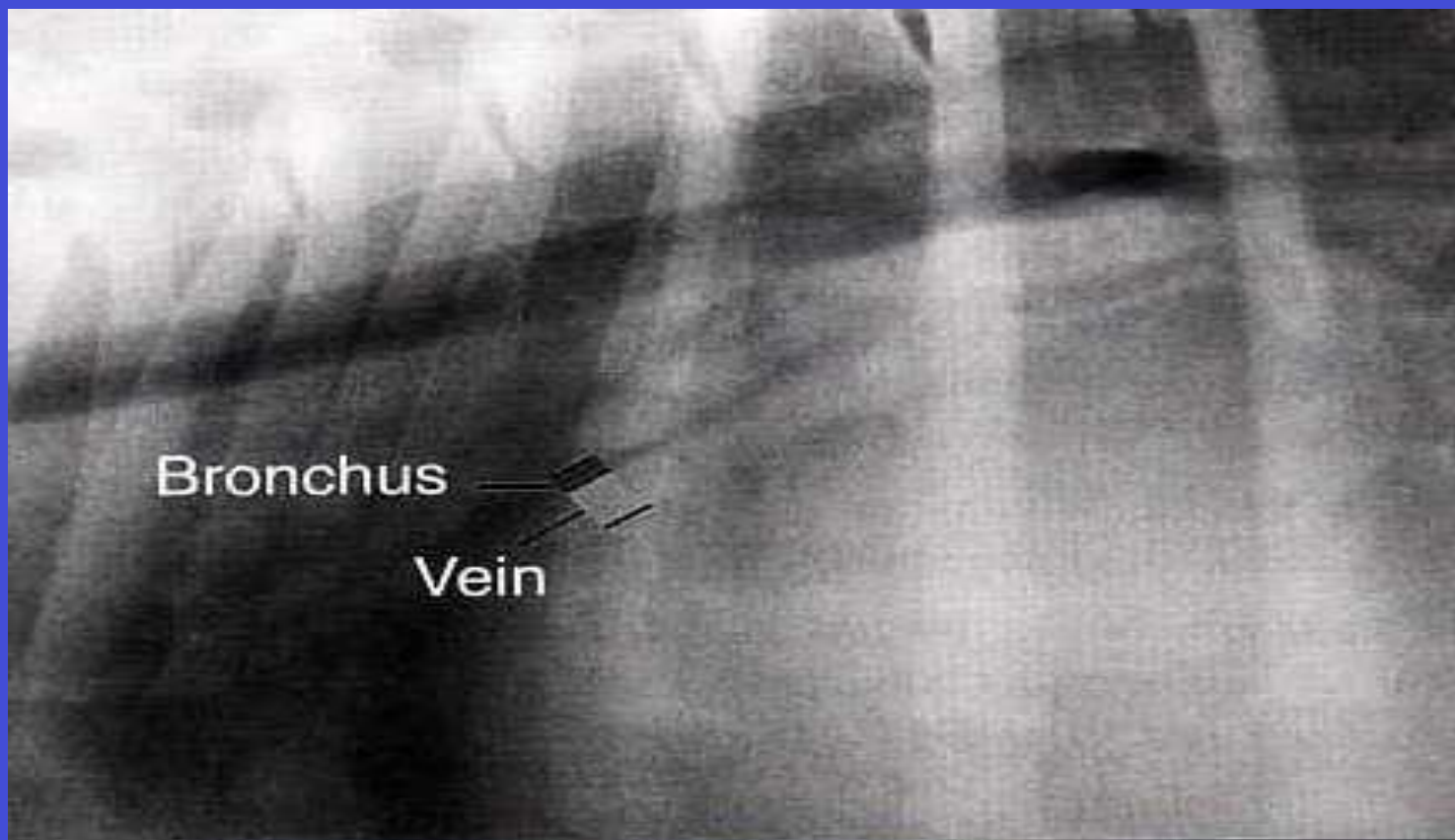
# Pulmonary Vascular Anatomy

## Pulmonary Vascular Anatomy





# Pulmonary Vein Enlargement





# CBC/Chemistry/Urinalysis

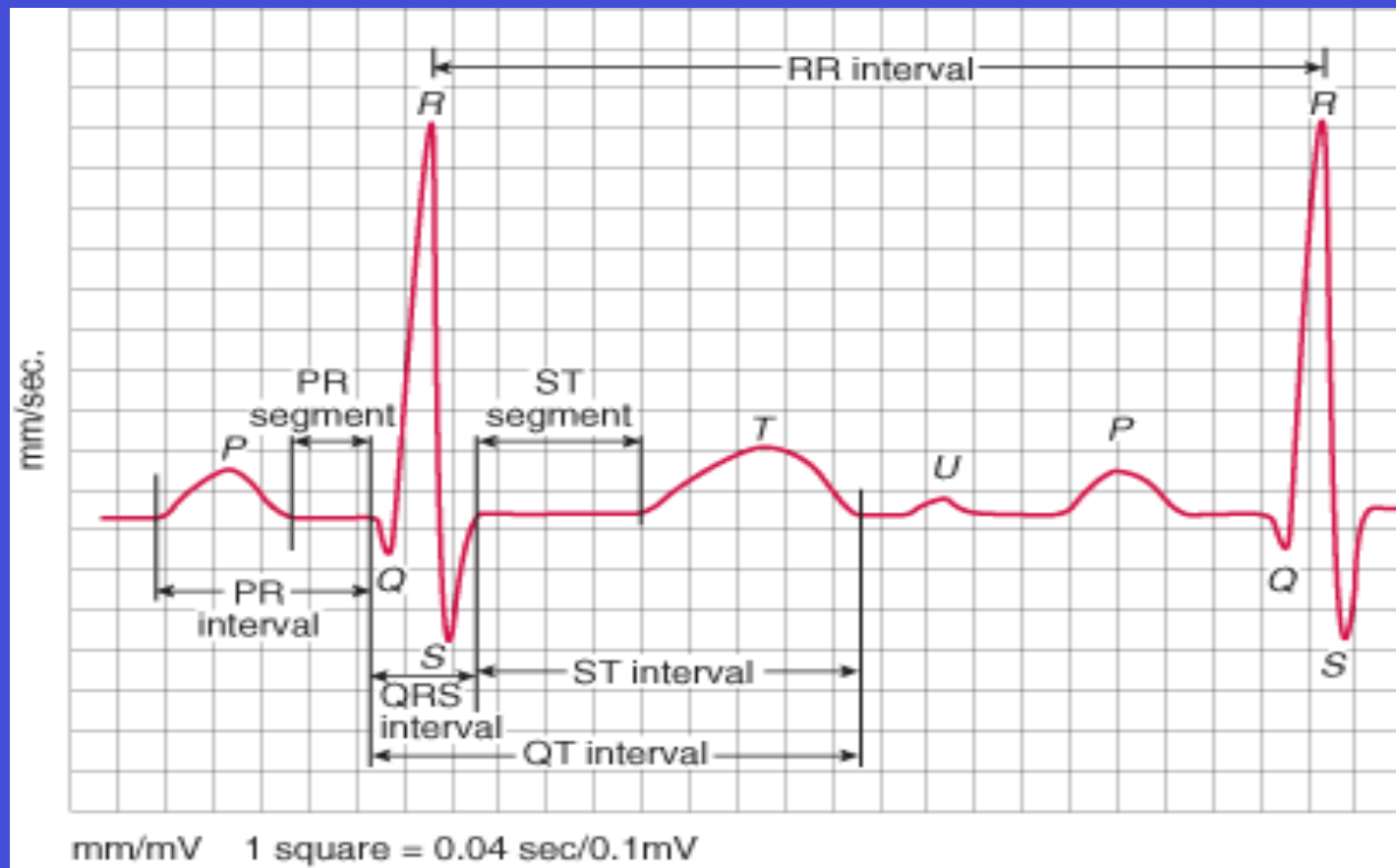
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- CBC- normal
- Stress leukogram :
  - Lymphopenia
  - Neutrophilia
- Mild increase in liver enzymes
- Mild increase in BUN but normal Serum Creatinine - therefore prerenal azotemia





# ECG (Normal)



# Wide Tall P Waves in Atrial Enlargement





# Summary of Signs of CHF

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- Mitral Systolic Murmur
- Cough
- Weight loss
- Left Atrial Enlargement
- Pulmonary Edema
- Pulmonary Vein Enlargement
- ECG – wide tall P waves



# What is your Diagnosis?

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What is your diagnosis ?

What is the etiology?



# Final Diagnosis

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- Congestive Heart Failure due to

Mitral regurgitation

Atrioventricular Valve Endocarditis



# Treatment Plan

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- Diuretics – Furosamide
- Venodilators – Nitroglycerin
- ACE Inhibitors – Enalapril
- Positive Inotropes – Pimobendan

# Pimobendan



# Lasix





# Pimobendan



# Enacare



# Lasix





# Prognosis

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- The prognosis is always guarded.
- The treatment will work for a short term – perhaps up to 1 year.
- However mitral valve endocardiosis is always fatal.



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The End















