CVS

SALMAN MANZOOR

Rheumatic FEVER

A 14 year boy presented with complaints of joints pain with swelling in the left elbow and then knee over periods of 14 days. He also complain of Dyspnea/SOB while playing. His pulse is 110/min, BP 110/80 Temperature is 102°F, R/R 18/min. JVP not raised, Auscultation reveal a mid diastolic murmur at Apex. (mitral valve)

Acute Rheumatic FEVER

What criteria is used for Diagnosis (Jones criteria)

	Major	Minor
Joints :	migratory polyarthritis	FEVER
Heart :	Carditis – Tachycardia, mid-diastolic	Arthralgia
nodule :	Subcutaneous nodule	Previous RF
E :	Erythema marginatum	↑ ESR or CRP
S :	sydenham Chorea	Leucocytosis
		1st Degree AV Block

Plus : +ve Throat culture

Pharyngeal infection of Group A Beta-hemolytic Streptococci

Probability of RF = 2 major criteria
or
1 major + 2 minor

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Investigations:

Evidence of systemic illness:

- ESR
- CRP
- Leucocytosis - CBC

Evidence of proceeding streptococal infection

- Throat swab culture
- ASO titer Raised

Evidence of carditis

- Chest x-ray : cardiomegaly, pulmonary congestion
- ECG : AV Block, pericarditis, T-wave inversion
- Ecocardiography : Cardiac Dilatation & valve abnormality

Enlist 3 steps of management

① Complete Bed Rest

- Temperature return to normal
- ESR = normal
- ECG = return to baseline
- Resting pulse is normal < 100min in adult

② Salicylates

- Aspirin 100mg/kg/day 4-5 Divided Dose 2 weeks
  - → Reduce Fever
  - → Relieve Joint pain and swelling
- Tappering of in 6 weeks

③ Corticosteroid

- Prednisolone 40-80 mg/d 2 weeks

Secondary Prevention :

- IM Benzathine penicillin
  1.2 million units every 4 weeks
- Sulfonamides 1g / daily
- Erythromycin 250 mg orally twice daily

Causes of Diastolic murmur:

Mitral Stenosis

Tricuspid Stenosis

Carey - combs murmur

D/Ds :

Rheumatoid Arthritis

SLE , Lyme Disease

Meningiococal Arthritis

Staphylococcus Arthritis

Cat Scratch Disease

Complications :

1. Chronic vulvular Heart Disease
2. Cardiac Failure
3. AV Block

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Infective Endocarditis

1. A 10 year old boy has fever for 3 months. He also has **pain in left hypochondrium**. His examination shows a diastolic murmur in pericardium and **soft tender spleen**.

2. An 18 year old presented with palpitation & off & on joint pain for last few month. 10 day ago stated have high grade fever along with anorexia, joint pain abdominal discomfort and off & on hematuria. On G/E **mild juandice, splinter hemorrhage, tender spots on finger tips and palms bilateral splenomegaly**, cervical lymphadenopathy and anemia was present. Diastolic murmur on cardiac auscultation were appreciated.

Infective Endocarditis : microbial infection of heart valve or lining of a cardiac chamber

Organisms :

Step. viridians : most common overall cause of IE

Staph. Aureus : most common cause of IE in I/V drug abusers

Staph. Epidermidis : " " " : prosthetic valve

Sites :

Mitral valve : most common

Aortic valve : 2nd most common

Tricupsid valve : Right sided valve commonly involve in I/V Drug Abusers.

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Investigations / Diagnosis

Modified Dukes Criteria

Major:

1. Positive Blood culture
2. Endocardial involvement :
   +ve Echocardiographic Finding OF vegetation

Minor:

1. Predisposing Heart Lesion
2. I/v Drug abusers
3. Pyrexia ≥ 38°C
4. Embolic Phenomena
5. Vasculitic phenomena
6. Blood culture suggestive
7. Suggestive ECG Findings

Definitive IE : - 2 major or 1 major & 3 minor or 5 minor

Possible IE : - one major & one minor
- 3 minor

Tests :

1. Blood culture (most crucial investigation)
2. Echocardiography : vegetation , valve Damage
3. Other Tests
   - CBC , ESR , Urine analysis & urine culture
   - ECG : MI , AV Block
   - X-ray Chest : cardiomegaly , CF

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Management :

1. Multidisciplinary approach : Physician , surgeon , bacteriologist
2. Remove Source of infection : Extraction of Tooth with Abcess
3. Empirical Rx P+V+G

   Penicillin + Gentamycin (2weeks)

   - Acute Endocarditis : Flucloxacillin + Gentamycin
   - Sub-acute endocarditis : Benzyl penicillin + Gentamycin
   - Penicillin Allergic , Prosthetic valve

     Tripple Regimen

     vancomycin + Gentamycin + Rifampicin

4. Staph infection : vancomycin + Gentamicin

SURGICAL :

Cardiac Surgery

- Debrediment of infected material
- valve Replacement

Prevention : (Prophylaxis)

Prophylactic Antibiotic Af in case of

- Dental Surgery
- Prosthetic valve cardiac

Complications :

- CCF
- septic embolism
- Glomerulonephritis

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VALVULAR HEART DISEASE

Mitral Stenosis

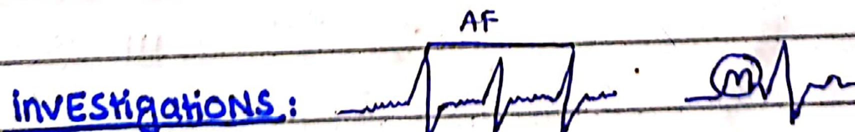
A 35 year Female presented in Emergency with Gradually worsening Dyspnea on Excertion, Palpitation Cough & Fatigue. She also complain of Pink Frothy sputum OFF and on For last Few days. She also Give Hx of having Fever with multiple joint pain and swelling when she was Teenager. O/E her pulse 110/min irregularly irregular. BP 130/85 R/R 22/min and normal Temperature. on CVS Examination there was a soft mid-diastolic murmur, Loud S_1 & Palpable pulsation to pulmonary area. (A-2021)

- Excertional Dyspnea – most Dominent symptoms
- Palpitation, Fatigue
- Heart sound : Loud S_1
  - Loud S_2 – Accompained pulmonary HTN (MCQs)
- Low pitched / soft mid-diastolic murmur (severity of MS)
- Malar Fasia (Dusky Decoloration of cheeks)
- All sign and symptoms ↑ with Excercise & Pregnancy

Causes:

- Rheumatic Heart Disease (most common)
- Valvulitis (SLE, Amyloid, carcinoid)
- mitral Annular Calcification

Investigations:



- ECG : Atrial Fibrilation, Bifida P wave
- X-ray Chest :
  - Distended pulmonary veins
  - Double shadow of Atrial Enlargement
  - ↑ pulmonary Trunk

Echocardiography

① TTE : Transthoracic Echo (Best initial Test)

② TEE : Transesophageal Echo

- narrow shaped orifice
- Enlarged Left Atrium
- Sign of RVF
- Thickened immoblize cusps

Doppler

Pulmonary Artery pressure

Cardiac catheterisation

Treatment :

Medical :

- Anticoagulant : warfarin For Atrial Fibrilation
- Diuretics : For pulmonary edema & congestion
- Digoxin & B-Blockers : For ventricular rate control
- Antibiotic : Prohylaxis For IE

Surgical :

- Ballon valvuloplasty (Treatment of choice)
- open / closed mitral valvotomy
- Valve Replacement

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Mitral Regurgitation

A 23 year old married female with a single child present with complaint of SOB. She is diagnosed case of RHD and recieving prophylaxis with benzathine penicillin. She is on Diagoxin and Diuretic therapy. O/E she has **Pan-cystolic murmur at Apical Area to Axilla.**

Symptoms : Pulmonary edema
Hypotension
Cardiogenic shock

Signs :
Heart sound : **Soft S_1**
- wide splitting S_2 → close of AV
- S_3 → LV Dysfunction

Murmur
High pitched, Blowing, Pan cystolic
Radiate to axilla & ↑ with Expiration

Investigations :

- ECG
- Chest x-ray
- Echo
- Doppler
- Cardiac catheterisation

Treatment :

Medical :
- Anticoagulant
- Diuretics
- Digoxin
- Vasodilator (ACE inhibitor)

Surgical :
Valve Replacement
(Rx of choice)

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Aortic Stenosis

Clinical Features :

Symptoms : Angina (most common)
Syncope
CHF
Sudden Death

Signs :

Heart sound : Soft A_2

murmur :

crescendo - decresendo ejection systolic murmur at Right 2nd intercostal space Radiating to carotid

crescendo - Decrecendo

Treatment :

Asymptomatic patient : Conservative

Aortic valve Replacement (AVR)

- Rx of Choice
- A pts who Develop 3 Symptoms
  - Angina
  - Syncope
  - HF

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Aortic Regurgitation

A 46 year old man with progressive exceptional Dyspnoea is found to have tachycardia with a large pulse, early Diastolic at base of the heart and BP 140/50. (S-2021)

Symptoms : P. edema, Shock, Hypotension

Signs :

murmur :

High pitched early Diastolic Decrecendo murmur at left Sternal border with pts forward bending 4-5th ICS

Causes :

RHD (most common)

IE (most common infectious)

Trauma

Marfan syndrome

Enlist 4 physical signs on pulses Examination

Large volume / collapsing

Bounding peripheral pulses

Capillary pulsation in nails bed : Quincke's sign

Femoral bruit : Duroziez's sign

Head nodding with pulse : De Musset's sign.

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Investigation :

ECG : T wave inversion

X-ray chest : cardiac Dilatation

Echo : Dilated LV

Cardiac Catherisation

Management :

1. AVR
2. Aortic Root Replacement & Coronary bypass surgery
3. ACE inhibitors & Ca^{2+} channel Blockers
4. Follow up

Salman Manzoor

Coronary Artery Disease

- Stable Angina
- unstable Angina
- MI
- Heart Failure
- Arrythmia
- Sudden Death

Stable Angina

A 50 year old male smoker and Diabetic complain OF Pericordial chest pain usually Precipitated by stress or Excertion and Relived by REST last For 5-10 min. His Resting ECG is normal.

- Substernal chest pain For 5-10 mints (15-30) <30min
- Relived by Rest or nitrates
- Aggrevated by Physical excertion / emotions
  Heavy meal / stress

investigations : (Stress Test)

- Resting ECG (Best initial Test)
- Excercise ECG using Tredmil — Excercise Tolerance Test
- Perfusion Scan — Thallium scan (Radioactive material)
- Stress Echocardiography — Diagnostic non-invasive Test
- CT coronary Angiography / Arteriography

Viability scan → If any person have Episode of HF that portion Dead → it tell us how much Heart Dead

RCA	LED	Circumflex
↓	↓	↓
4 Part	10 Part	6 Part

How much viable

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management :

(i) Lifestyle modifications

Smoking cessation
weight Reduction
Regular Excercise
Control BP
Treat hyperlipidemia

(ii) Antiplatelet Therapy

Aspirin 75 mg daily
Clopidegral 75mg daily

(iii) Anti-Anginal Therapy

Nitrates
Beta Blockers
Ca^{2+} Channel Blocker - Amlodipine
K^{+} channel Activator - Ni
IF Channel Antagonists - Ivabradine

Other modalities

PCI - Percutaneous Coronary Angiography
Coronary Artery Bypass Grafting

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Acute Coronary Syndrome

A 60 y old known case of long standing DM, HTN & Hyperlipidemia also chain smoker brought to emergency very early morning with Hx of found collapsed, profusely sweating and grossly pale in washroom 20 min ago. Attendant give Hx of having of excertional dyspnea, nausea and sweating almost daily for last few days. He was on some medication. But detail were not known. O/E he is pale with cold skin profusely sweaty. semiconciousness dyspenic with pulse 64 per mint and irregular BP 110/85, R/R 24/mint. Rest of Examination reveal no gross abnormality. BS is 96 mg/dl

Acute coronary syndrome : it include

1. unstable Angina
2. MI
   - ST- Elevation MI (STEMI)
   - Non- ST- Elevation MI (NSTEMI)

Spectrum :

	unstable Angina	NSTEMI	STEMI
① Coronary Thrombosis	Sub- Total	SubTotal	Total
② History	Angina < 30 mints	→ same	Angina > 30 mins
③ Reliving Factor	by Rest / Nitrates	→	not Relieved by Rest / Nitrates
④ ECG	ST- Depression & T wave inversion		ST- Elevation
⑤ Cardiac Enzyme	not elevated	Elevated	Elevated

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What First investigation would you advise and why

Cardiac Enzyme : serial
Troponin T and Troponin I (raised immediately within 2-4 hours) and Remains elevated 7-10 days (Troponin I) and 10-14 days (Troponin T)

Other Tests :

- ECG : Best initial Test and central confirm diagnosis
  Single normal ECG not Eclude ACS.
  - Serial ECG

- Serial Cardiac Enzyme
  CK MB
  1st Cardiac Enzyme to Rise and Fall
  Start = 4-6 hrs
  Peak = 12 hours
  normal = 48-72 hours

management plant steps :

HBS-PR

Hospitalization
Bed Rest
Supplemental oxygen
Sedation with BZD → IF Anxiety
Systolic BP maintained
100-120 mmHg
Pulse should lowered = 60/min

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Pharmacological Rx :

Heparin , Antiplatelets (Aspirin , Clopidegrel)

Nitrates , Beta - Blockers , Ca^{++} channel Blocker

Beta-Blockers → 1st choice; Ca^{++} channel Blocker → 2nd choice

Revascularization

IF medical Therapy is not Response or Pts is not ischemic Free than

Early coronary Angiography & Revascularization within 48- hours.

Myocardial infarction

1. A 60 year old male with DM 8 years and HTN for 6 year in medical emergency with Acute severe Ant. chest pain Radiating to neck and left upper arm for about 30 mins. He was having similar pain of much less intensity & duration in last few days. Current pain is associated with profuse sweating, breathlessness and nausea. He vomited twice on the way to hospital. His BP 105/65 Pulse 88/min regular. BS is 210mg/dl

2. A 50 year old Diabetic, HTN male presented with acute Ant. chest pain while he was going to office on third floor by stairs. it was associated with dyspnea, nausea and cold sweats & he vomited at office door. When Examined Heart Rate 88/min Regular BP 155/95 R/R 18/min & Afebrile. There was Arcus Lipidicus in eye & Rest Examination was non-revealing

Myocardial infarction

one investigation advice immediately, & explain Relavant Findings:

Cardiac Enzyme

Troponin T & I Raised immediately within (2-4 hours) and remain elevated 7-10 days (Troponin I) and 10-14 days (Troponin T).

Other investigations

ECG : Raised T wave → ST-Elevation → Formation of Q wave → T wave inversion

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Cardiac Enzyme : Troponin T & I

CK MB

serum myoglobin

other serum marker : non-specific

AST = Peak 24-48 hours

Fall to normal = 72 hours

LDH = Peak = 3-4 days

Remain elevated = 10-14 days

important for diagnosis of MI in pts presenting after few days

Release from Damaged = Liver, RBCs, Skeletal muscle

Blood CBC / ESR ↑ : Polymorphic Leucocytosis

Chest X-ray : (pulmonary edema, enlarge cardiac shadow)

Radionucleiode scan :

Techenetium-99 Pyrophosphote scan

indications :

① whom Diagnos by ECG & Enzyme is not possible → present after several days

② intra-operative infarction

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Risk Factors of MI

Obesity

Smoking

DM

HTN

Family History positive

management :

General measures :

- Bed Rest + stop smoking
- Diet : nothing by mouth For First 4-12 hours
  ↳ Risk OF vomiting and Aspiration
- Bowel : Laxative if Constipation
- sedation : Alprazolam → Anxiety
- Oxygen : Supplemental if saturation is low.

(mona Therapy)

An I/v cannula inserted for emergency medication

Morphine : 4-8 mg I/v + cyclizine 50mg I/v → Pain Relive

Oral Aspirin : 1 tablet chewable
+
Clopidegral : 75 mg 4 tablet orally stat

Nitroglycerine : Sublingually if BP is normal

Oxygen : if saturation is low

Thrombolytic streptokinase 1.5 million units over 1 hour

or arrange For p° PCI (Angioplasty)

Nitroglycerine I/v For First 24-48 hours to relieve persistant pain / Left ventricular Failure if pressure is stable

Alprazolam :

Bed Rest : First 24-48 hours with bedside commode

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CCF

A 57 year old woman presents with orthopnea on Excertion and orthopnea. She has long Hx of DM, HTN with Suboptimal Control and does not take regular medicine. She does not have angina & nonsmoker with normal cholestrol level. Medicine include metoprolol 50mg bid. Her BP 170/90 H/R 64 bpm regular. O/E her lung are clear JVP 12cm of H_2O, Pitting pedal edema bilateral and cardiac Examine Left ventricular impulse is prominent & sustained; audible S_3 and no murmur.

Congestive Cardiac Failure

Features:

Symptoms: Left Heart Failure

1. Exertional Dyspnea → orthopnea → Proxymal noctumal Dyspnea
2. Fatigue
3. Nocturia
4. Chronic non-productive cough

Right Heart Failure

1. Tachycardia
2. Raised JVP (normal 6-8 cm H_2O)
3. Pitting pedal edema
4. Tender smooth hepatomegaly

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Investigations :

ECG :

- Right or Left ventricular Hypertrophy
- mycardial ischemia or infarction
- Arrythmia

X-ray chest :

- cardiomegaly
- Bats wing appearance → pulmonary edema

Echocardiography (Best & accurate)

Distinguish b/w systolic or Diastolic impairement of Left or Right ventricle.

BNP & Pro BNP (B-Type Natriuretic peptide)

Others :

- CBC → Anemia
- LFTs
- urea & creatinine
- serum electrolytes → Diuretics cause Hypokalemia
  - ↳ may cause Arrythmia
- Cardiac Enzyme → Detect MI

Management :

Life style modifications

- Stop smoking / Alcohol
- Reduce weight
- ↓ sodium Diet

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① Diuretics, ② Dilators, ③ Digitalis

Diuretics:

Thiazide

Furusemide

Spironolactone → Dystolic Dysfunction

Vasodilators

ACE inhibitors → Side Effect
- Dry cough (most common)
- Skin Rash
- Hyperkalemia

Nitrates → Systolic Dysfunction

Hydralazine

Digitalis

B - BLOCKERS

Anti - ischemic therapy

Anti- coagulant

Coronary revascularization

ICD (impalpable cardioverter Defibrillator)

LVAD (Left ventricular Assist Devices)

Biventricular pacing

Cardiac Transplant

Complications:

- Cardiogenic shock
- Arrythmias
- Thromboembolism
- Pericardial effusion

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Framingham Diagnostic Criteria of HF

major criteria	minor criteria
PND	Pedal edema
Neck vein Distention	Night cough
Crepitations	Tachycardia
S_3 Gallop	Dyspnea on Excertion
↑ venous pressure >16cmH2O	Pleural Effusion
+ve Hepatojugular Reflux	Hepatomegaly
Cardiomegaly	
Pulmonary edema	

New york Heart Association classification

Class I	No limitation during ordinary Activity
Class-II	Slight Limitation " " "
Class-III	marked limitation of normal Activity without symptoms at Rest
Class-IV	Dyspnea at Rest : All Activities cause Dyspnea.

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- Sudden onset of Extreme brethlesness
- Lung Auscultation Reveal Fine crepitation
- Dull percussion
- Gallop Rhythm

Acute cardiogenic pulmonary edema

A 54 year male diabetic come in Accident & emergency Department with severe dyspnea for one hour. O/E his pulse 110/min BP 110/min and chest is full of fine crepitations. There are dull percussion note on both lung bases. Cardiac Auscultation reveal Gallop rhythm.

ACPE

Name 3 important bed side investigations to confirm Diagnosis:

Pulse oximetry
ECG
- ABGs
Chest x-ray
- Echocardiography
Plasma BNP
CBC, Blood urea, Blood sugar

management: (LMNOP)

Oxygen
Loop Diuretics (Furosemide 50-100mg IV)
Morphine
Nitrates (IV Glyceral Trinitrate)
Position i.e = sit the position up (↓ preload)

If no response:
inotropic agents (Dobutamine) (Dopamine)
intra-aortic Ballon pump

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Disease of Pericardium

Acute Pericarditis

A 47 year old male admitted in hospital for Rx of septicemia develop retrosternal chest pain which is moderate to severe intensity. Radiating to shoulder & neck and aggrevate with change in body posture as well as on swallowing. O/E there is a low high pitched scratchy friction sound over central chest area. (A-2021)

Chest pain is positional

Aggrevated by
- Lying supine
- Coughing
- Deep inspiration

Relived by
- Lean forward
- Sitting up

– Pericardial Friction Rub (Diagnostic) Hear in systole

Investigations:

ECG : ST - Elevation -

X-ray Chest : cardiac shadow

Echocardiography : Definitive investigation for effusion

viral TITER :

management:

Medical :
- Aspirin 600mg 4 hourly
- NSAID
- Corticosteroid
- Antimicrobial Therapy

Surgical :
- Pericardiocentesis
- Surgical Drainage

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What is most probably cause in this patient

Common	Less Common
Post - MI	Uremia
Viral : Coxasackie B	- Bacterial infection
Tuberculosis	- Rheumatic Fever
	- Trauma

Complications :

Constrictive pericarditis

Pericardial Effusion

Pericardial Effusion

A 38 year old man After a couple of Days of Chest Pain develop severe dyspnonea & cough. His Temp. is Raised on Deep inspiration his neck veins are distended ECG is Low voltage. QRS complex

- Raised JVP
- Hypotension
- Pulsus paradoxus : ↓ in systolic BP by ≥ 10 mmHg During inspiration
- Pericardial knock : Heart sound Quiter

investigations :

- ECG
- XRay chest
- Echocardiography

management :

- Pericardiocentesis : Aspiration of pericardial Effusion
- Emergency surgery
- Femoral surgical Drainage

complications :

- Arrythmia
- Damage to coronary Artery
- Bleeding

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- palpitation
- pulse irregularly irregular
- no other abnormality

Atrial Fibrillation

1. A 50 year old Female with Palpitation For many days. O/E her pulse is irregularly irregular with Rate of 87/min. HER Respiratory and cardiovascular Examination Done grossly Revealed no major abnormality.

2. A 55 year old man presents in with complaints of palpitation OFF and on For last 15 days and continuously For last 2 days. His BP 125/85 mmHg H/R 103/min irregularly irregular. NO complaints OF chest pain dyspnea and sweating etc.

Atrial Fibrilation

3 Important causes OF irregular Heart Rate :

mnemonic : PIRATES

Pulmonary embolism
ischemic heart Disease including MI
Rheumatic heart Disease
Atrial myxoma
Thyrotoxicosis
Ethanol
SEPSIS

Choronic AF

HTN
CHF

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Investigations:

ECG:

P wave absent

QRS rhythm is Rapid & irregular

Echocardiography:

Treatment:

Hemodynamically unstable:

Hemodynamically stable:

Hemodynamically stable:

Step I:

Rate Control: Target 60-100 bpm

- β-Blockers
- Ca^{2+} channel Blockers
- Digoxin

Step-II

Rhythm Control: AF < 48 hours & low Risk

I/V Heparin followed by cardioversion

Electrical cardioversion is preffered & also called DC cardioversion

Pharmacological cardioversion:

Parrentral Procainamide

Amiodarone

If AF > 48 hours & High Risk

Anticoagulate for 3 weeks then perform cardioversion and 4 week After

Anticoagulate with warfarin

Target INR 2-3

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Hemodynamically instable

Refer to
- Hypotension
- Chest pain
- Dyspnea (CHF)
- Confusion

- Serious Arrythmia
- immediate Rx:

Diagnostic Test For Arrythmia
- ECG
- Holter monitoring
- Echo
- Electrolyte
- Chest x-ray
- Cardiac MRI

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HYPERTENSION

A 55 year old male presented with Gradually worsening, headache, pain in neck muscle and vertigo. He gaves Hx of worsening of symptoms off and on with episodes of palpitations. O/E his BP was 200/100 mmHg Heart Rate 104 B/min regular in Rhythm. Rest of Physical Examination revealed no abnormality.

What Type of HTN He is having

Secondary Hypertension

Define : It is Defined as Systolic BP > 140 mmHg and Diastolic BP > 90 mmHg For a sustained Period.

Grading :

	Systolic	Diastolic
Normal BP	< 130	<85
Mild	140-159	90 -99
moderate	160-179	100-109
Severe	≥ 180	>110

Complications :

- Neurological : Stroke
  Ruptured Aneurysms

- Cardiac : Atrial Fibrillation (most common)
  Coronary Artery Disease
  Left ventricular Hypertrophy

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Vascular : Aortic Aneurysm
Aortic Dissection

Renal : Renal Failure
Proteinuria

Eyes : Retinopathy

investigations :

① in all patient :

① Urine analysis : RBC, Glucose
Protein

② BUN

③ Serum Creatinin

④ Hematocrit

⑤ Serum K^+ to Excude Hyperaldosteronism

⑥ ECG : LVH
Serum Total LDH Cholestrol

② Secondary HTN

① Chest x-ray
cardiomegaly
HF
coarctation of aorta

② Echocardiography : LVH

③ Renal ultrasound

④ Renal Angiography

⑤ Urine
. Cortisol
Cathecholamine

⑥ Dexamethasone suppression Test

management :

Lifestyle modification :
weight Reduction
Low Fat Diet
Low Salt Diet , smoking , Alcohol
Excercise (at least Daily 30 minutes)

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Anti-HTN Drugs / initial Drug of Choice

- Diuretics : loop of Thiazide (Reduce peripheral vascular resistance)
- ACE inhibitors : Captopril, Enlapril (Block conversion of Agiotensin I → II, Produce Arterial Dilatation)
- ARBs : losartan, valsartan
- Ca^{2+} Channel Blockers : Amlodipine (It ↓ BP by Arterial Vasodilation)
- B - Blockers : Propranolol

Adjuvant Therapy :

- Aspirin
- Statins

Test when patient on Rx :

1. Serum Electrolyte
2. RFTs
3. ECG

What are the Advantages and side Effects of Anti Hypertensive Drugs.

	Advantages	Side Effects
1. Diuretics	more effective in obese, smokers than non, ~~CRF & CHF~~; inexpensive; most effective Reduce systolic HTN	impotence, Skin Rash; ototoxic & Gynacomastia; Hypo Kalemia; Hyponatremia
2. ACE inhibitors	Helpful in prevent Diabetic nephropathy; Less side Effect	Skin Rash, Taste Disturb; Leucopenia; Angioedema
3. Ca^{2+} Channel Blockers	useful when HTN co-exist with Angina	Headache, Flushing; Palpitation, peripheral edema

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A 55 year old male presented with palpitation and Found to have irregularly irregular pulse.

Causes:

Atrial Fibrillation

Multiple Focal Arterial Tachycardia

Multiple Ectopic

Sinus Exit Block

Treatment:

- Amidorone
- Lidocaine
- Procainamide
- Flucanaide
- Electrical Cardioversion

MI complications

Early:

Cardiac Arrythmia

Cardiac Failure

Peri-carditis

Late:

Recurrent infection

Thromboembolism

Mitral valve Regurgitation

VSD

Ventricular Aneurysms

Recurrent Cardiac Arythmia

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