MITRAL VALVE IE : CLINICAL DILEMMA

Alaa Hafez : cardiology resident at Cairo university hospitals

HISTORY

- 34 years old
- Male
- non smoker
- Denies IV drug addiction

HISTORY

❖1 year ago

- Recurrent subcutaneous abscesses in arms and thighs

  With recurrent drainage

❖1 month before admission

- was admitted to fever hospital
- received iv antibiotics on which he improved then discharged

Presentation

- **One week after discharge**
  - Fever and constitutional manifestations
  - HF manifestations (SOB , Orthopnea , PNDs)
- **Echocardiography requested**
  - Normal LV dimensions and function
  - Moderate mitral regurgitation

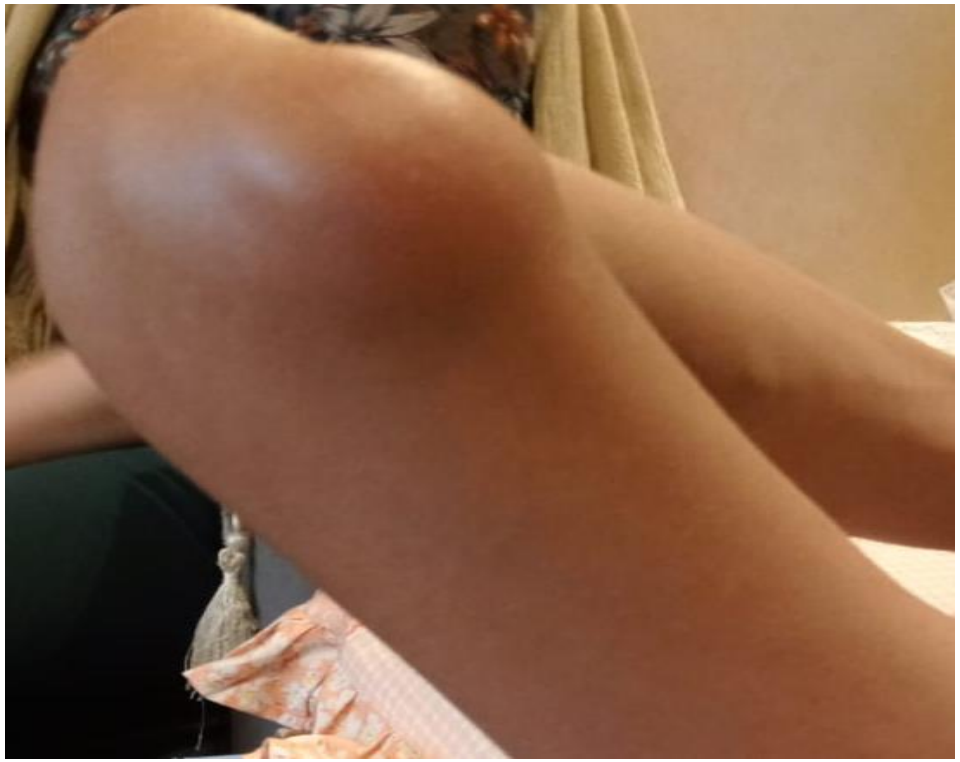
EXAMINATION

- Patient was conscious ,oriented to time ,place and person
- Orthopnic
- BP :130/80 equal on both sides
- Pulse:140b/min,regular ,big pulse volume ,equal with intact PP
- RR: 40 cycles / min
- TEMP:41c
- Spo2 : 89 on RA 95 on oxygen mask

EXAMINATION

- **Neck veins** : not congested pulsating neck veins
- **Chest examination** : diminished air entry bilateral, wheezy chest with scattered crepitation all over chest
- **Cardiac examination** :Pan systolic soft murmur heard over the apex radiating to axilla

- **Extremities :** no lower limb edema-no clubbing multiple swellings found in arms and thigh (painful –hot – tender –red)



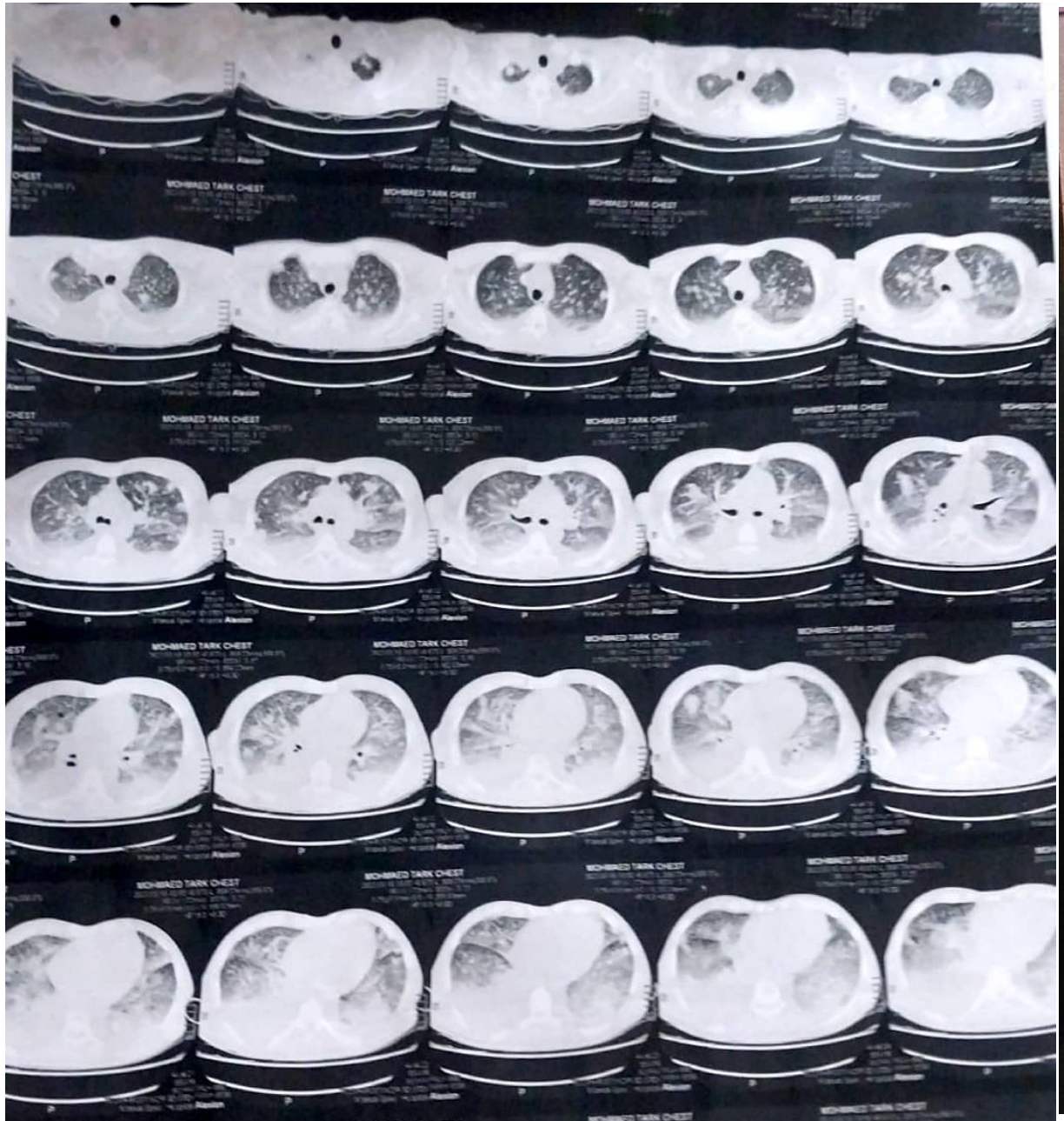
LABS

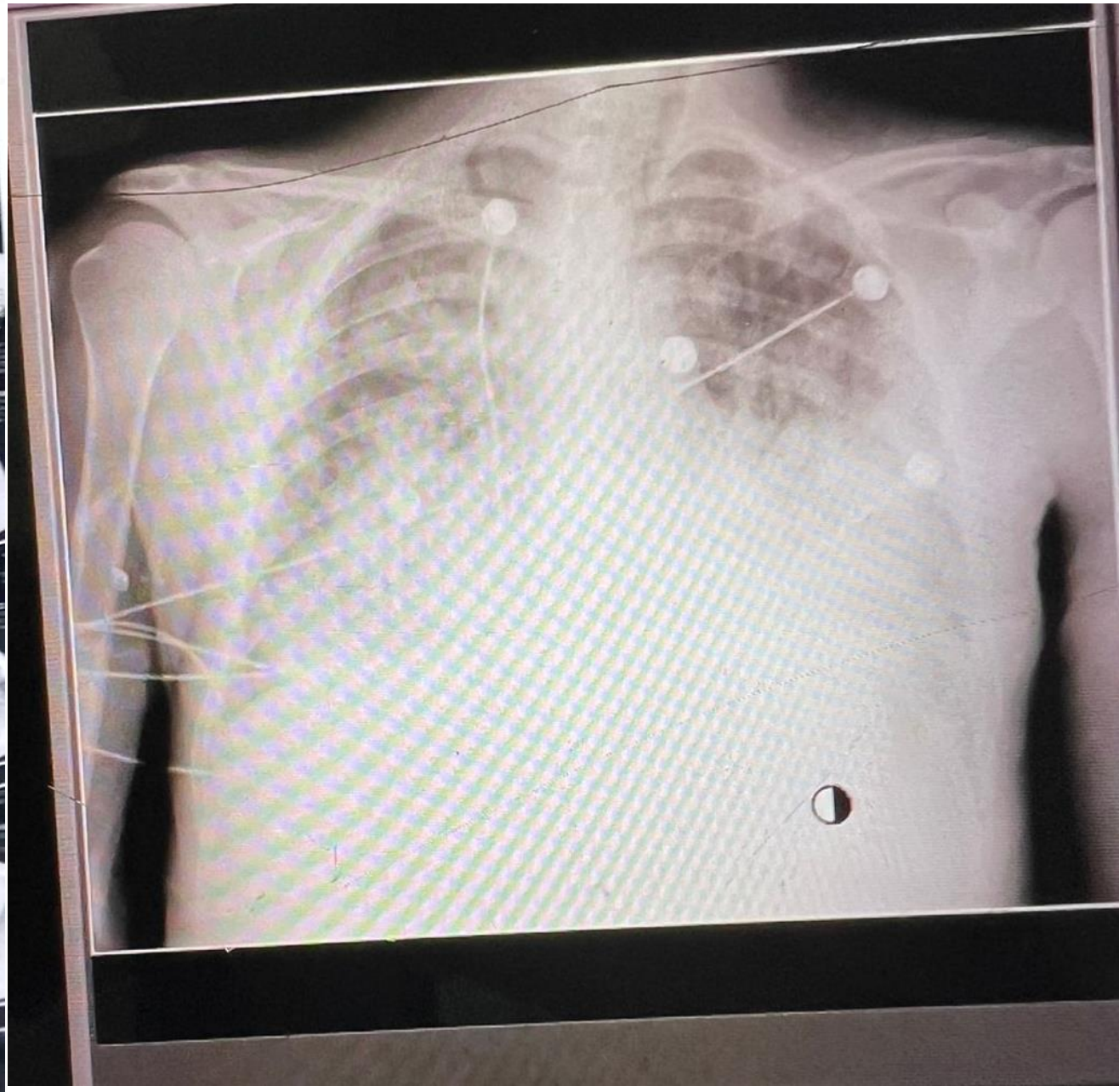
Inflammatory panel

TLC	21000	ESR	115	Ferretin	2999
Staff	10	Procalcitonin	70	LDH	1153
Segmented	73	Blood cultures	MRSA &acinetobacter	Serology Toxicology	Negative Negative
CRP	265	Fluid C&S	MRSA	Virology	Negative

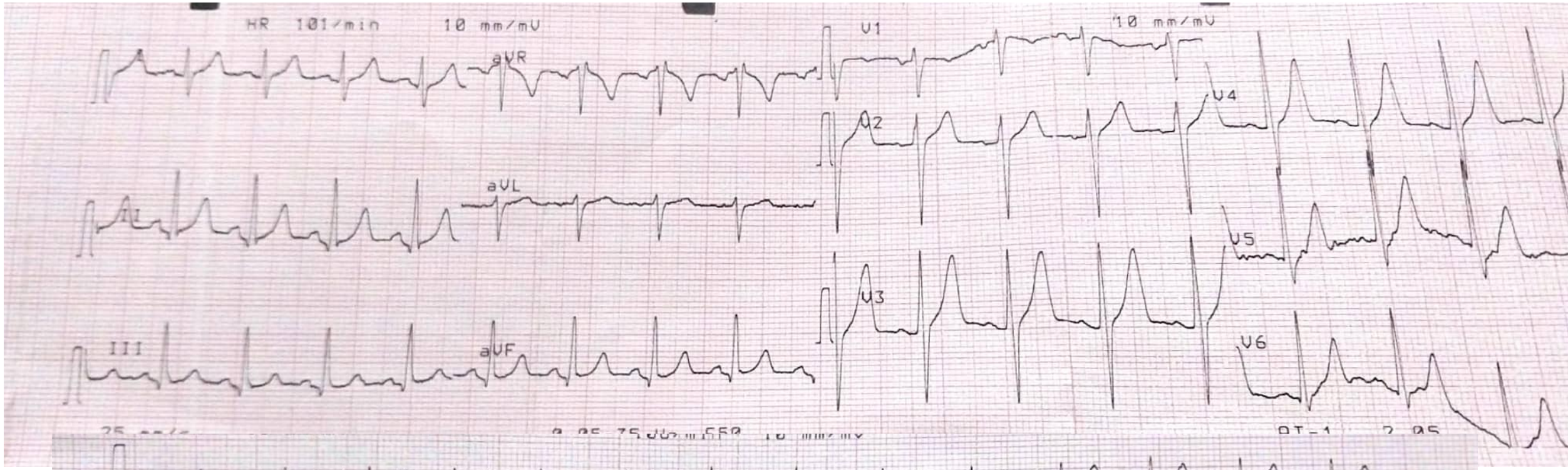
HB	7.6	Reiculocyte count	2.5	Inr 1.5	
Platlets	528	Alt	105	Urine analysis	Pus cells 20-25 Rbcs over 100
Na	132	Ast	96		
k	4.1	T.Bil	1.38		
Creat	1.6-2.9	D.bil	.83		
Urea	60	Albumin	2.3		

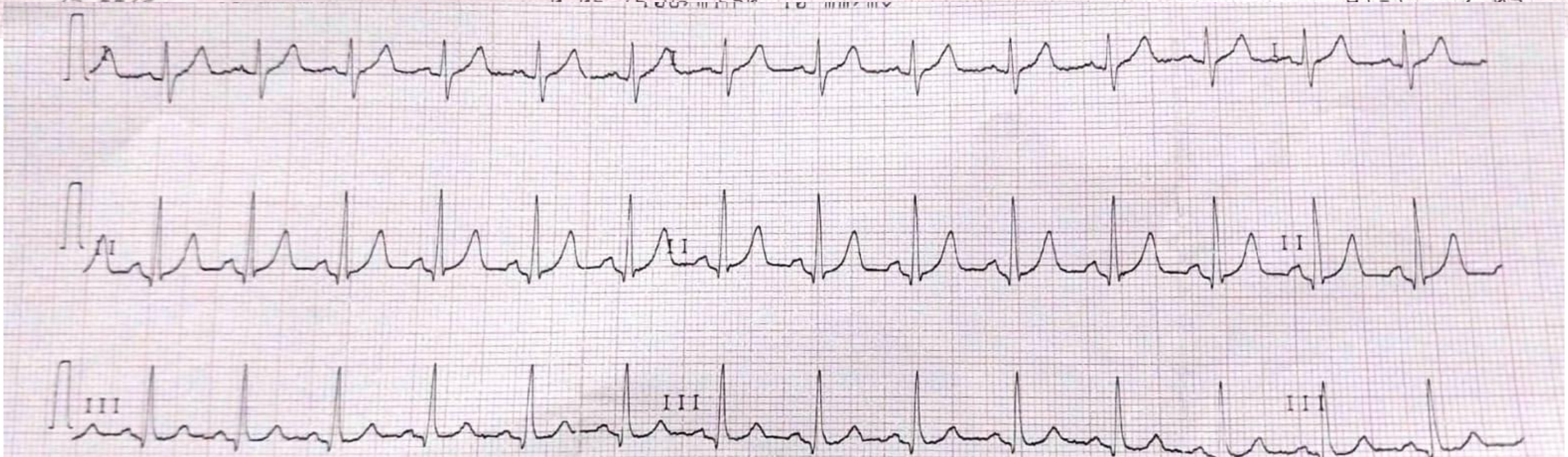
Ct chest



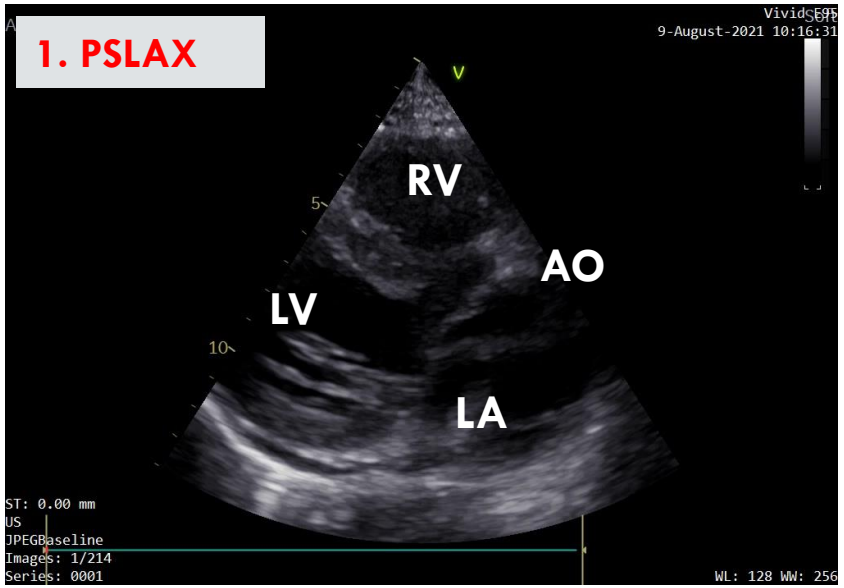


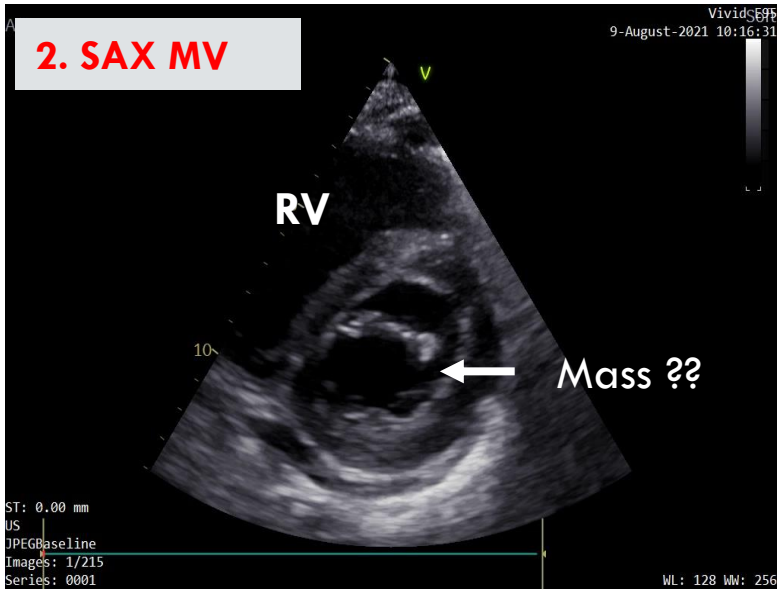
ECG

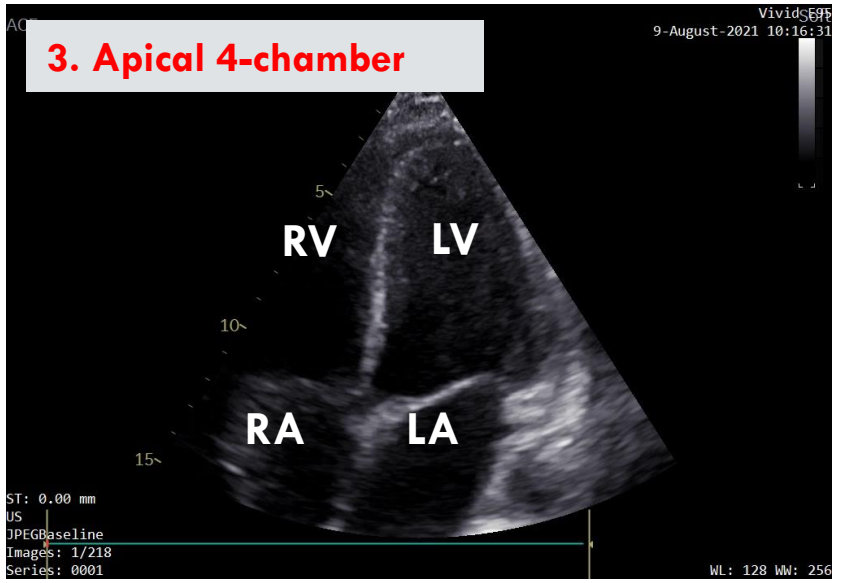

HR 101/min
10 mm/mV
aVR
V1
10 mm/mV
V4
V2
aVL
V5
V3
III
aVF
V6

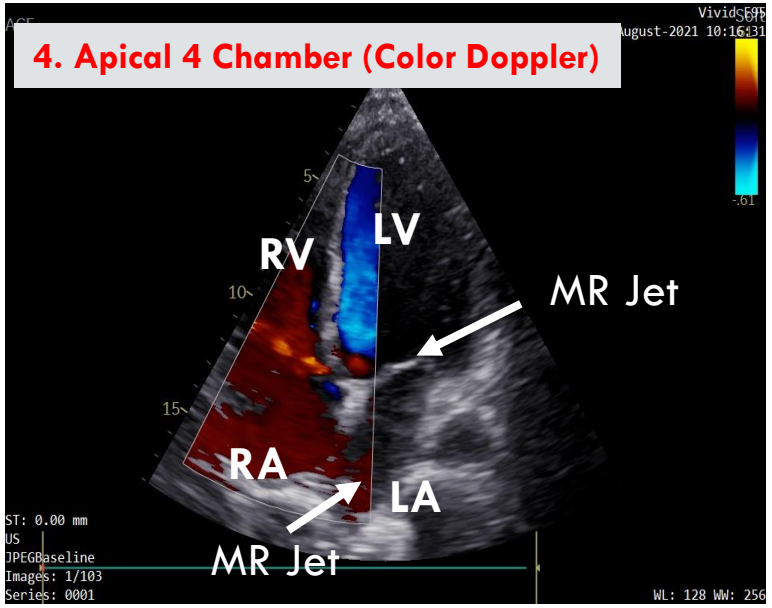

I
II
III

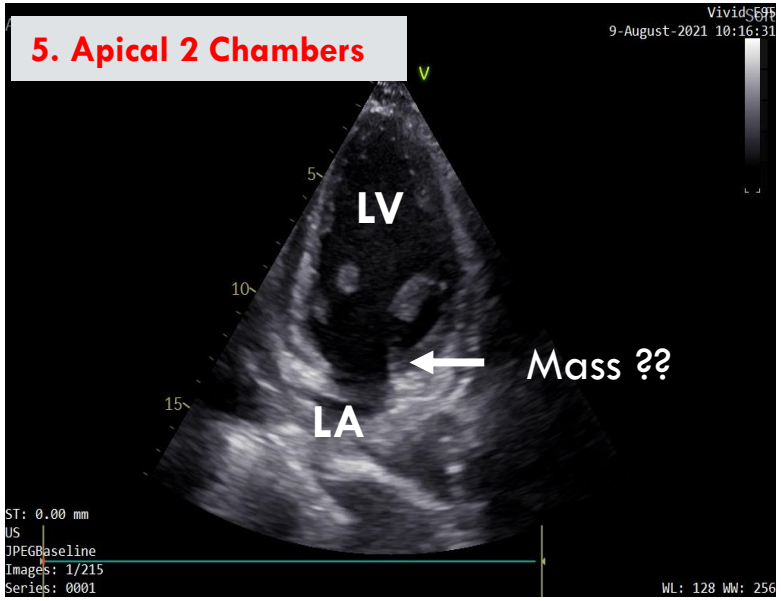
Trans-Thoracic Echocardiography

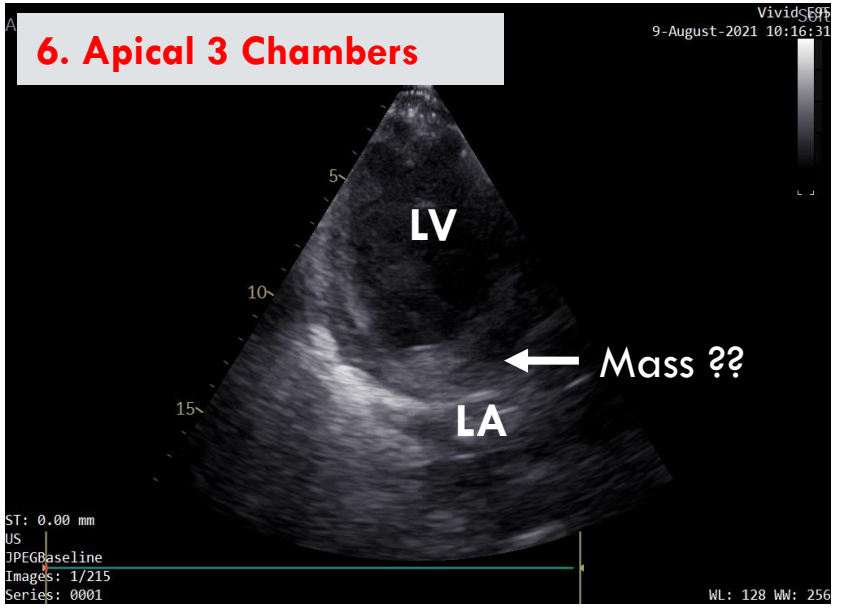




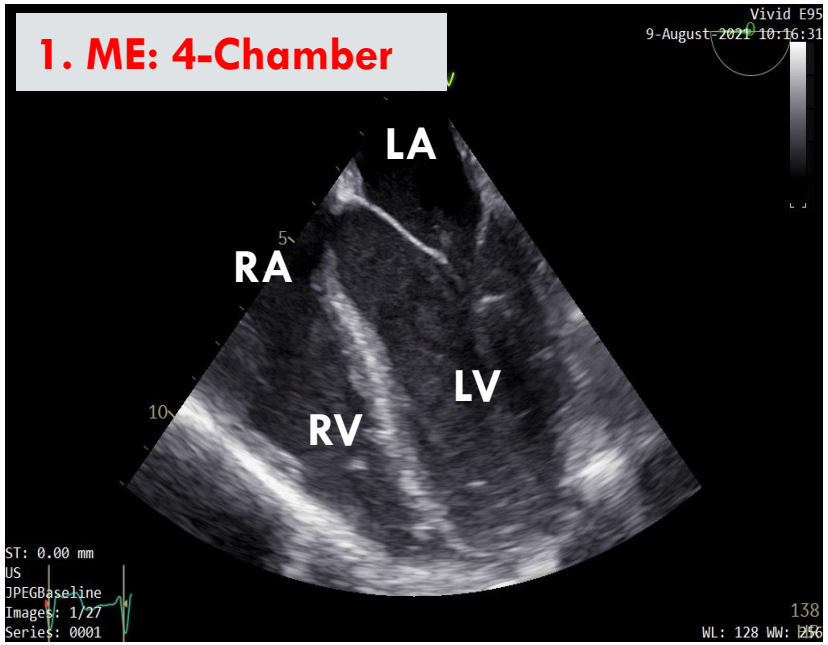


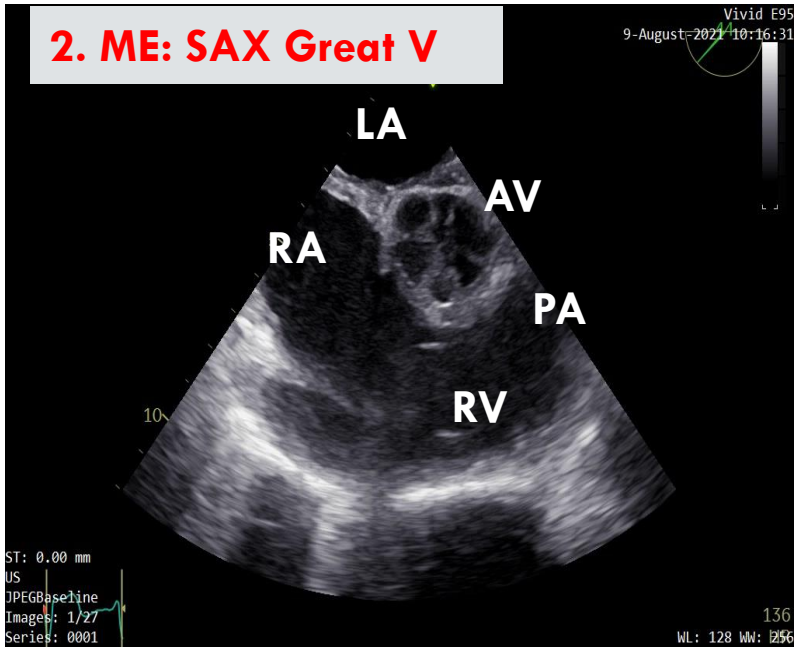


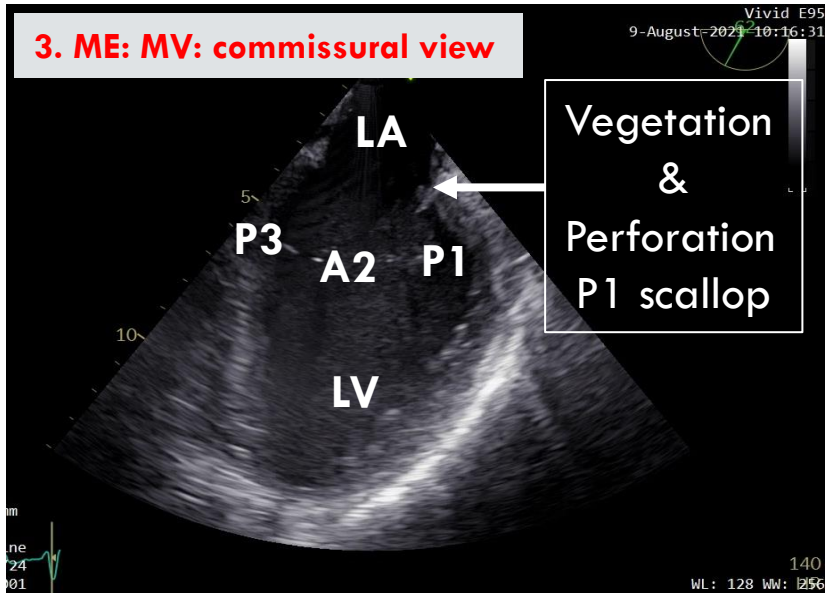


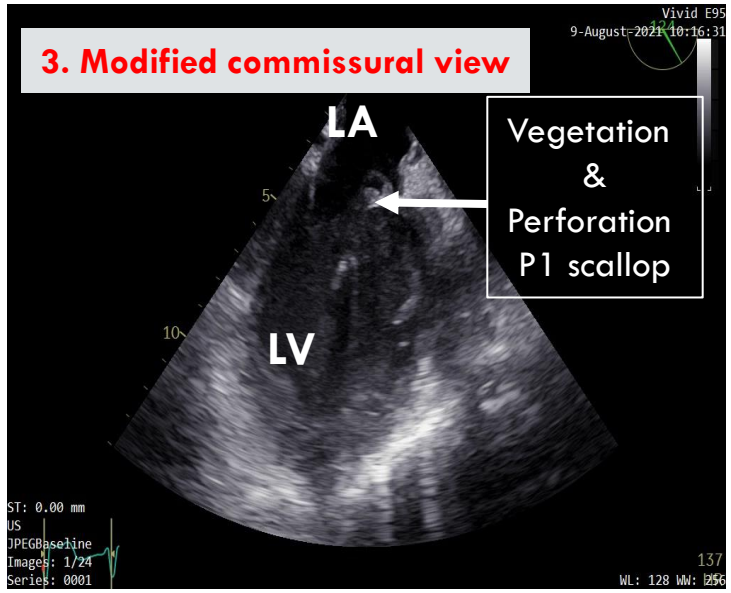


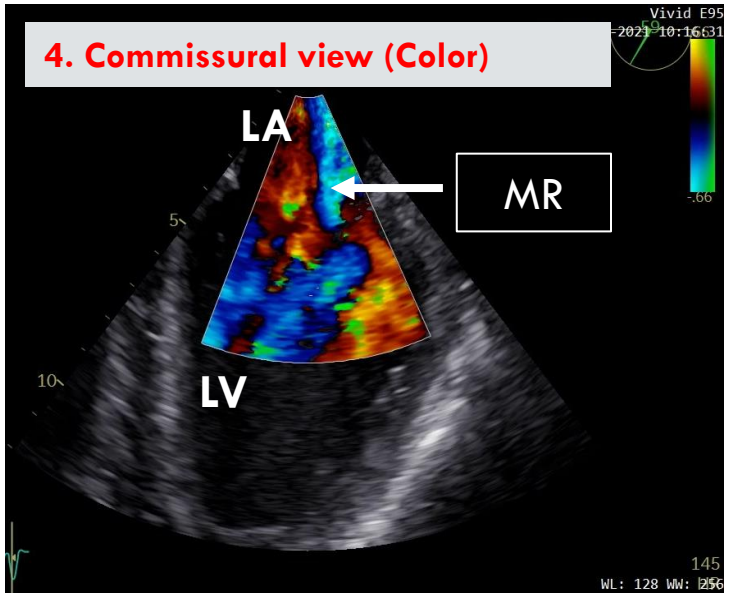
Trans-Esophageal Echocardiography



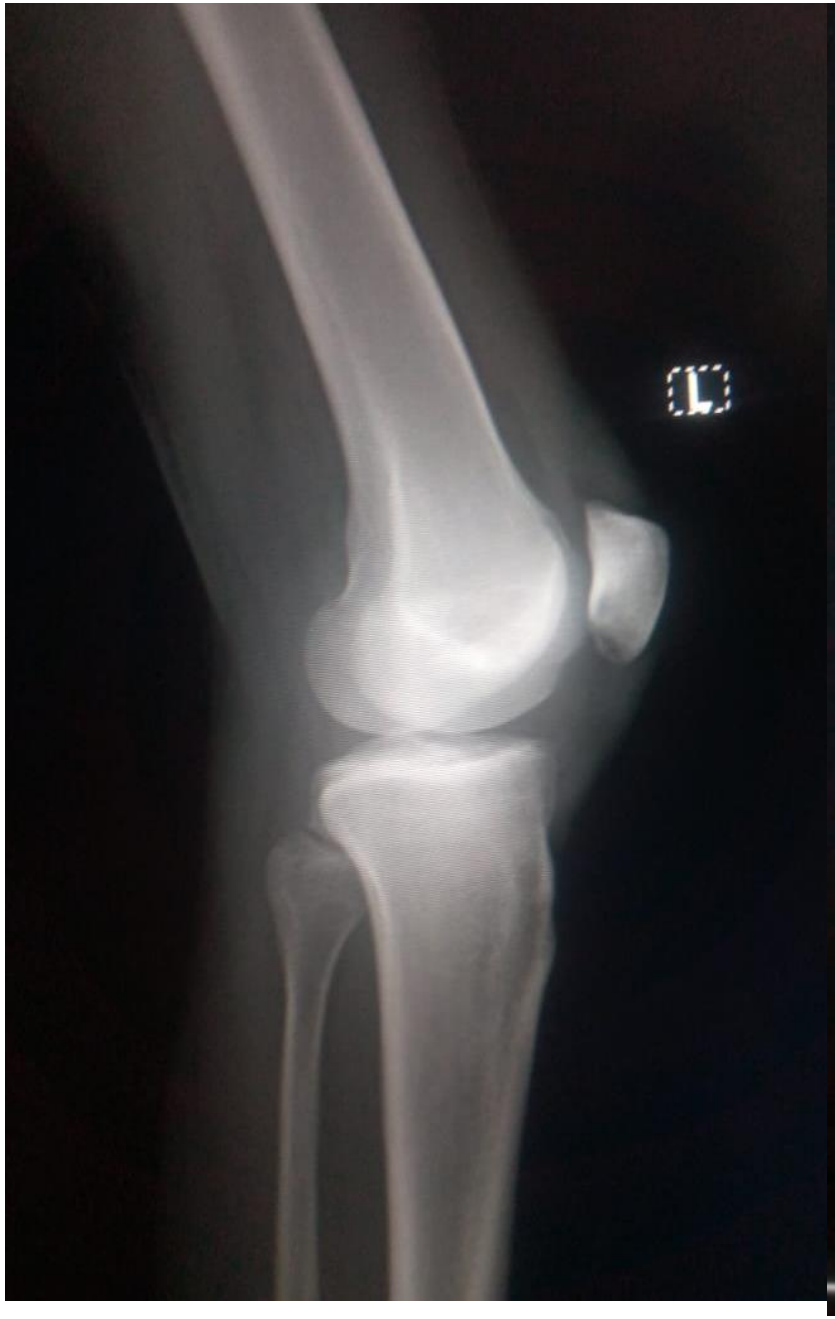


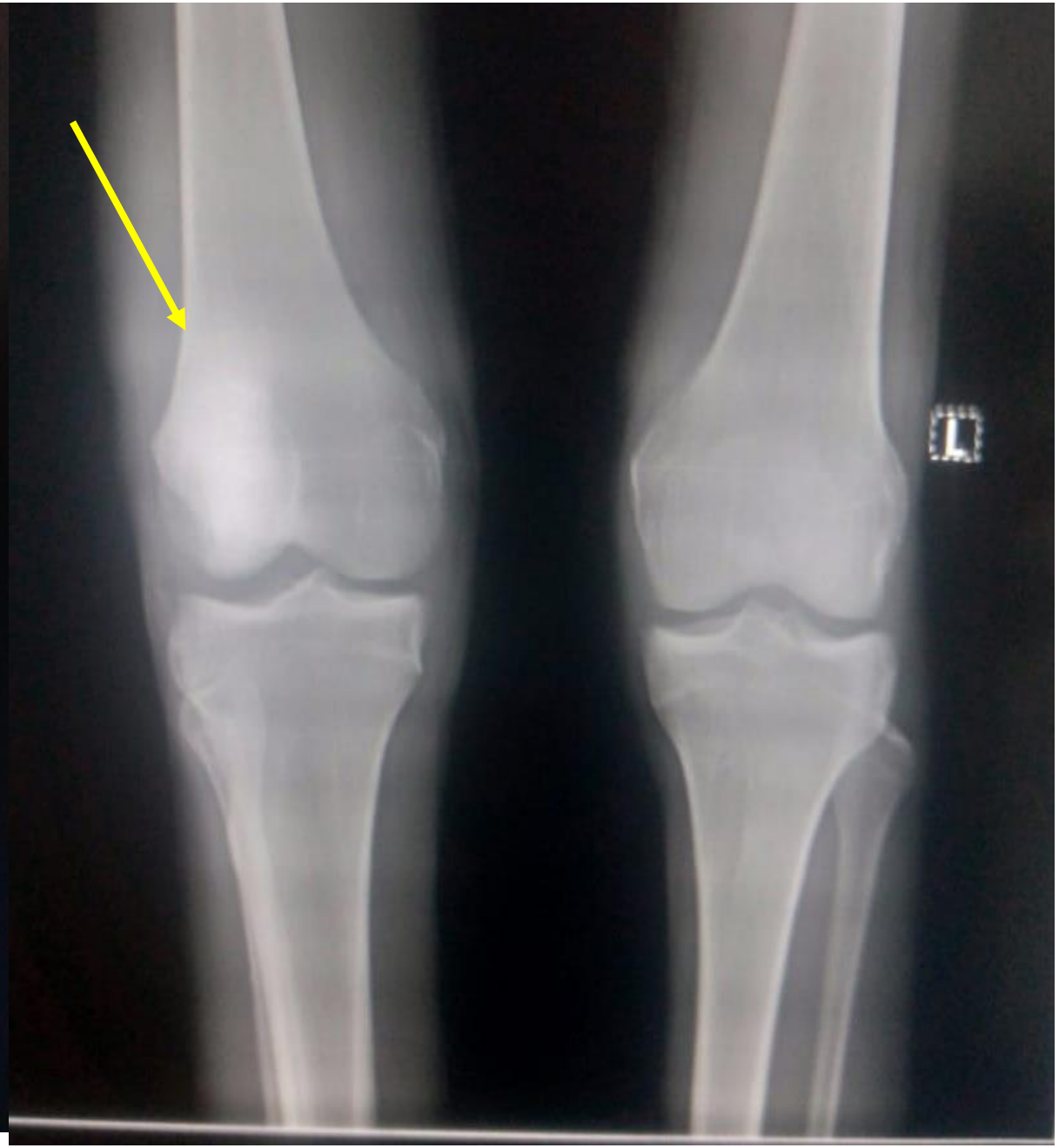






KNEE XRAY





Knee us

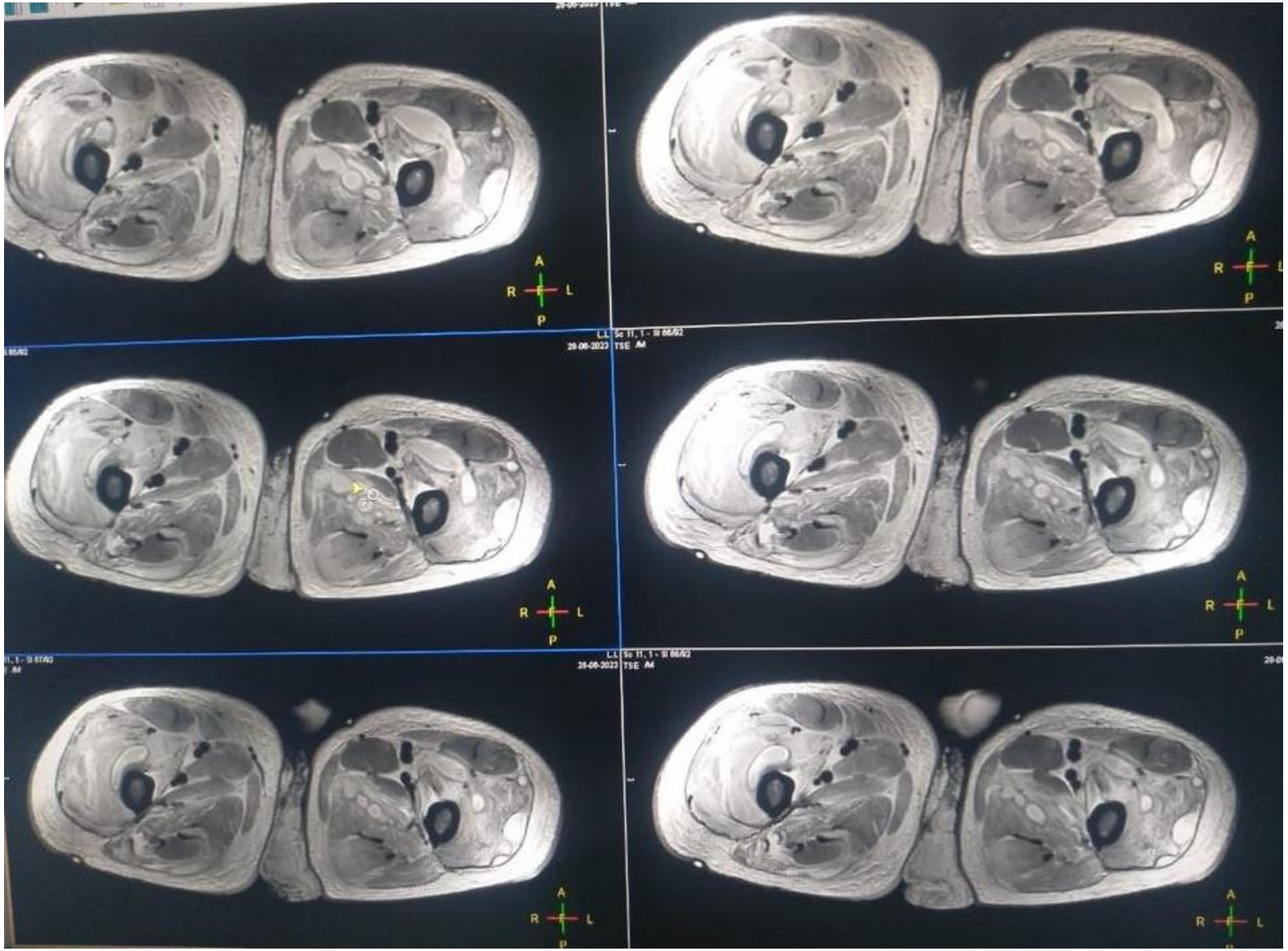
- Loculated cystic lesions 2.8 x 3x2.1 cm
- C&S :

-TLC 4250 cells

80% PMNLS 20% lymphocytes

-Culture : MRSA

Muscle MRI



MVIE complicated by ARDS

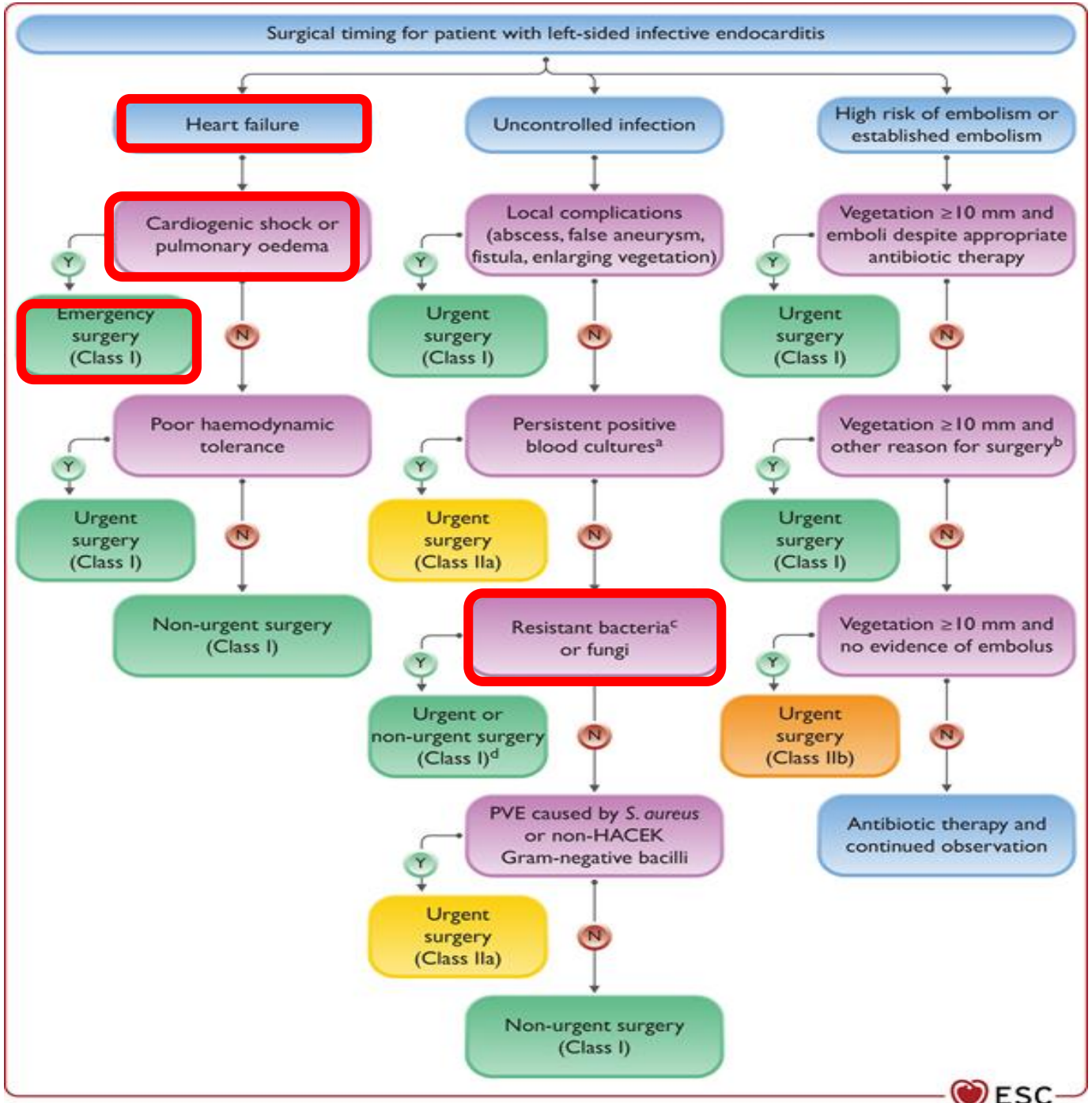
- iv antibiotics
- iv diuretics
- CPAP

Multiple abscesses aggravating septic /cardiac condition

- surgical drainage for muscular abscesses
- us guided drainage
- Broad spectrum iv antibiotics

Suspected immune deficiency disorder !!!!

- hematology & immunology consultation


Surgical timing for patient with left-sided infective endocarditis
Heart failure
Cardiogenic shock or pulmonary oedema
Y
Emergency surgery (Class I)
N
Poor haemodynamic tolerance
Y
Urgent surgery (Class I)
N
Non-urgent surgery (Class I)
Uncontrolled infection
Local complications (abscess, false aneurysm, fistula, enlarging vegetation)
Y
Urgent surgery (Class I)
N
Persistent positive blood cultures[a]
Y
Urgent surgery (Class IIa)
N
Resistant bacteria[c] or fungi
Y
Urgent or non-urgent surgery (Class I)[d]
N
PVE caused by S. aureus or non-HACEK Gram-negative bacilli
Y
Urgent surgery (Class IIa)
N
Non-urgent surgery (Class I)
High risk of embolism or established embolism
Vegetation ≥10 mm and emboli despite appropriate antibiotic therapy
Y
Urgent surgery (Class I)
N
Vegetation ≥10 mm and other reason for surgery[b]
Y
Urgent surgery (Class I)
N
Vegetation ≥10 mm and no evidence of embolus
Y
Urgent surgery (Class IIb)
N
Antibiotic therapy and continued observation
ESC

Surgery or not ?

Extra cardiac source of infection

The definition of persistent infection consists of fever and persistent positive cultures after 7 days of appropriate antibiotic treatment. Surgery is indicated for persistent infection when extra-cardiac abscesses (splenic, vertebral, cerebral, or renal) and other potential causes of positive cultures and fever (infected lin

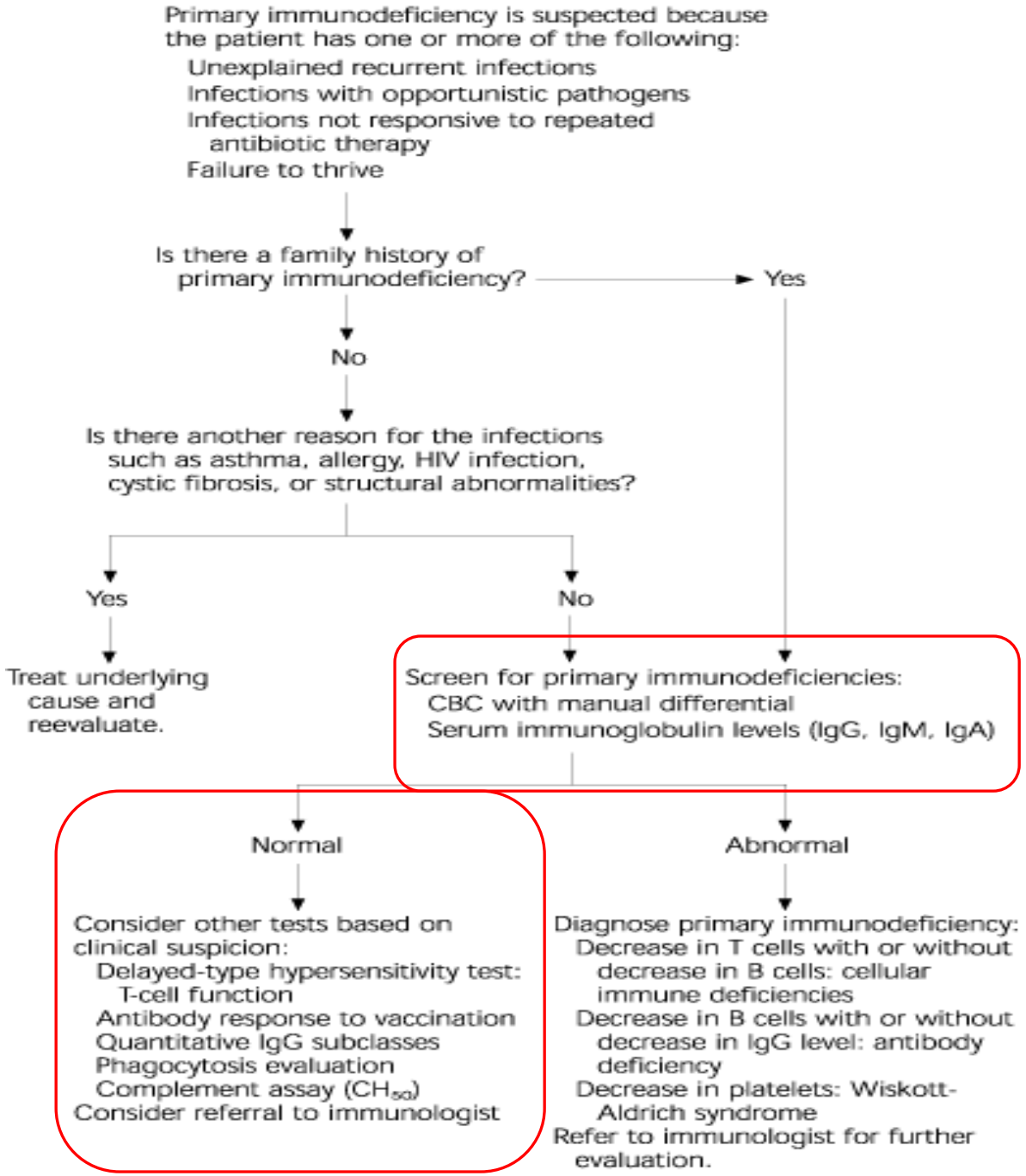
(ii) Uncontrolled infection		
Urgent[d] surgery is recommended in locally uncontrolled infection (abscess, false aneurysm, fistula, enlarging vegetation, prosthetic dehiscence, new AVB).[5,420,421,429,445]	I	B
Urgent[d] or non-urgent surgery is recommended in IE caused by fungi or multiresistant organisms according to the haemodynamic condition of the patient.[420]	I	C
Urgent[d] surgery should be considered in IE with persistently positive blood cultures >1 week or persistent sepsis despite appropriate antibiotic therapy and adequate control of metastatic foci.[436,437]	IIa	B
Urgent[d] surgery should be considered in PVE caused by *S. aureus* or non-HACEK Gram-negative bacteria[5,385,449]	IIa	C

European Heart Journal, Volume 44, Issue 39, 14 October 2023, Pages 3935–3938, https://doi.org/10.1093/eurheartj/ehad671

Suspected immunodeficiency

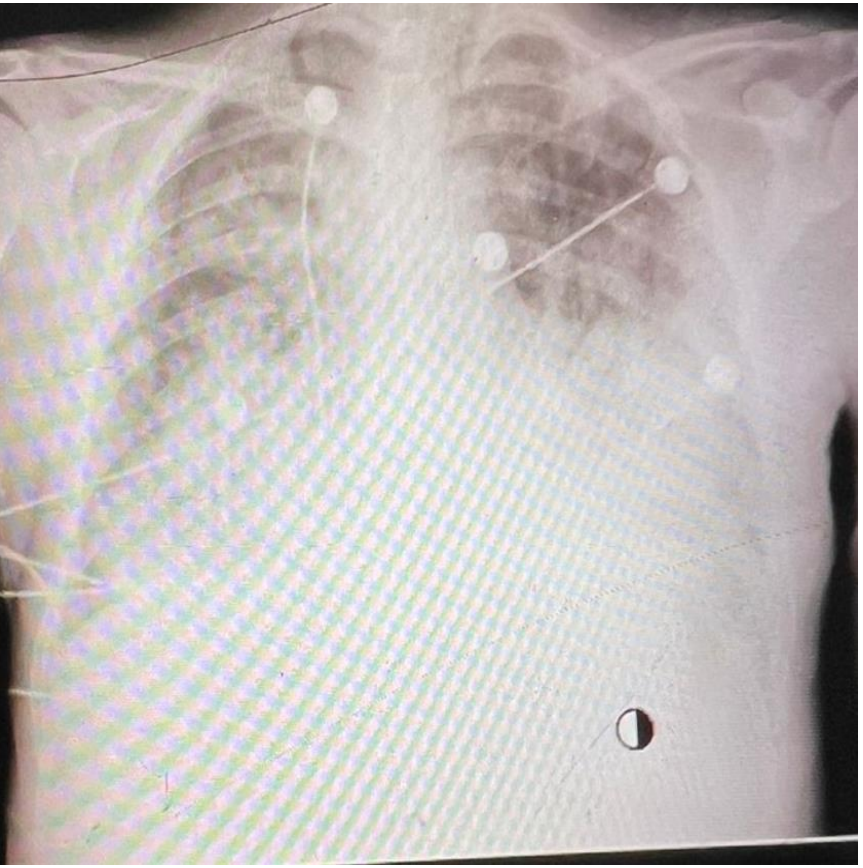
Antibiotics strategy (culture based)

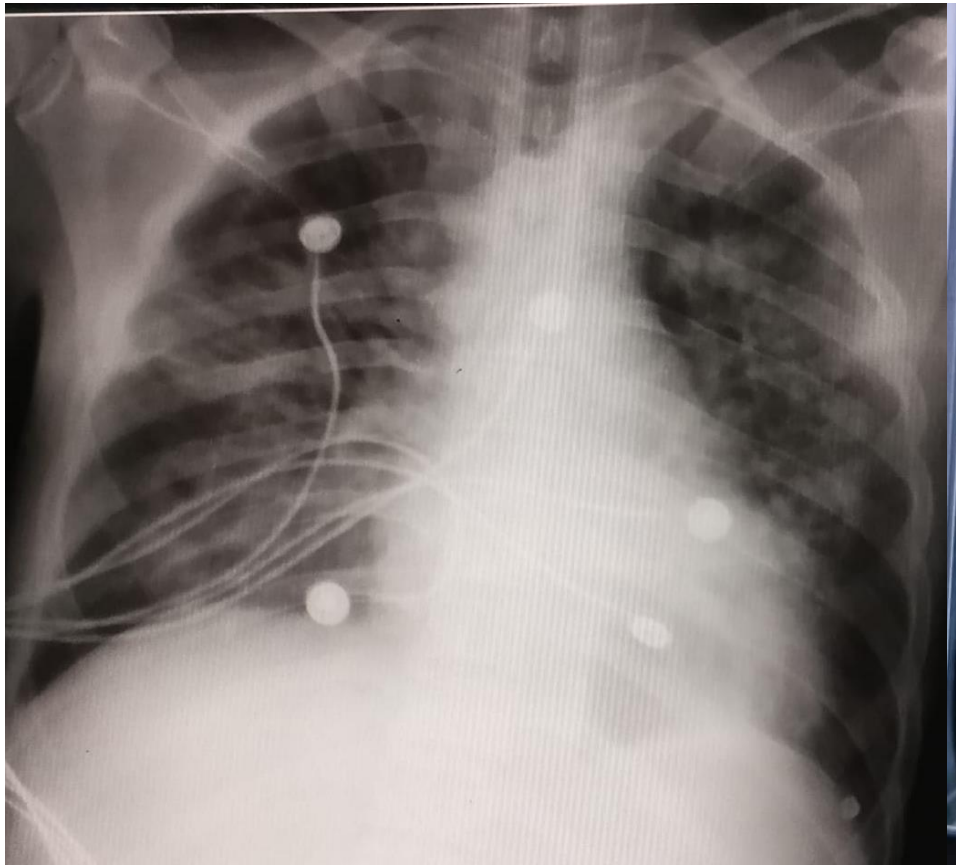
- Vancomycin –gentamycin –Dalacin (AKI and drug reaction)
- Linezoild –ciprofloxacin (non sufficient response)
- Daptomycin –ciprofloxacin-Tinam

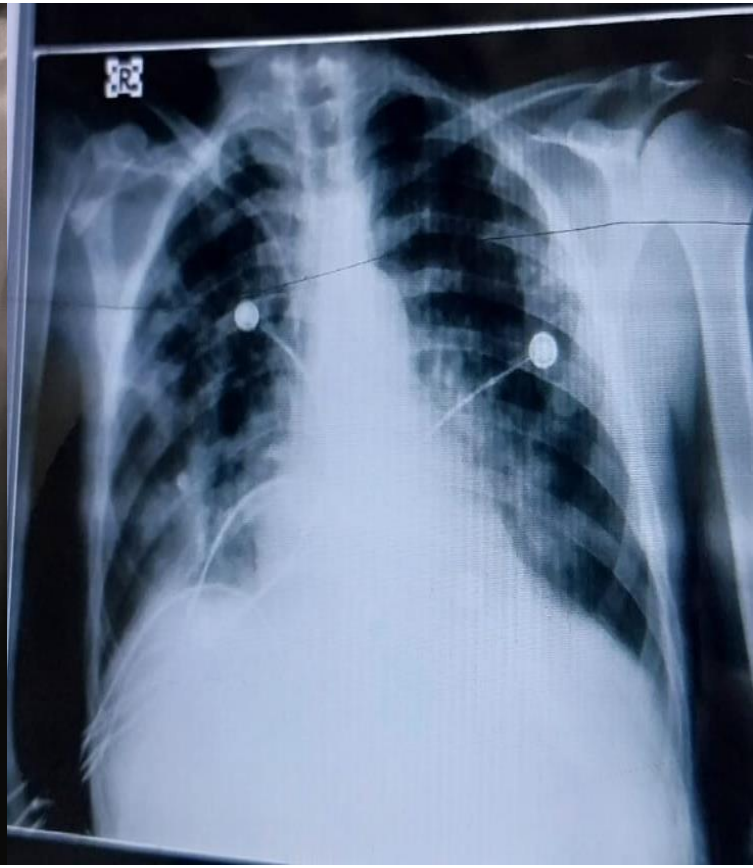

Primary immunodeficiency is suspected because the patient has one or more of the following:
Unexplained recurrent infections
Infections with opportunistic pathogens
Infections not responsive to repeated antibiotic therapy
Failure to thrive
Is there a family history of primary immunodeficiency?
Yes
No
Is there another reason for the infections such as asthma, allergy, HIV infection, cystic fibrosis, or structural abnormalities?
Yes
Treat underlying cause and reevaluate.
No
Screen for primary immunodeficiencies:
CBC with manual differential
Serum immunoglobulin levels (IgG, IgM, IgA)
Normal
Consider other tests based on clinical suspicion:
Delayed-type hypersensitivity test: T-cell function
Antibody response to vaccination
Quantitative IgG subclasses
Phagocytosis evaluation
Complement assay (CH_{50})
Consider referral to immunologist
Abnormal
Diagnose primary immunodeficiency:
Decrease in T cells with or without decrease in B cells: cellular immune deficiencies
Decrease in B cells with or without decrease in IgG level: antibody deficiency
Decrease in platelets: Wiskott-Aldrich syndrome
Refer to immunologist for further evaluation.

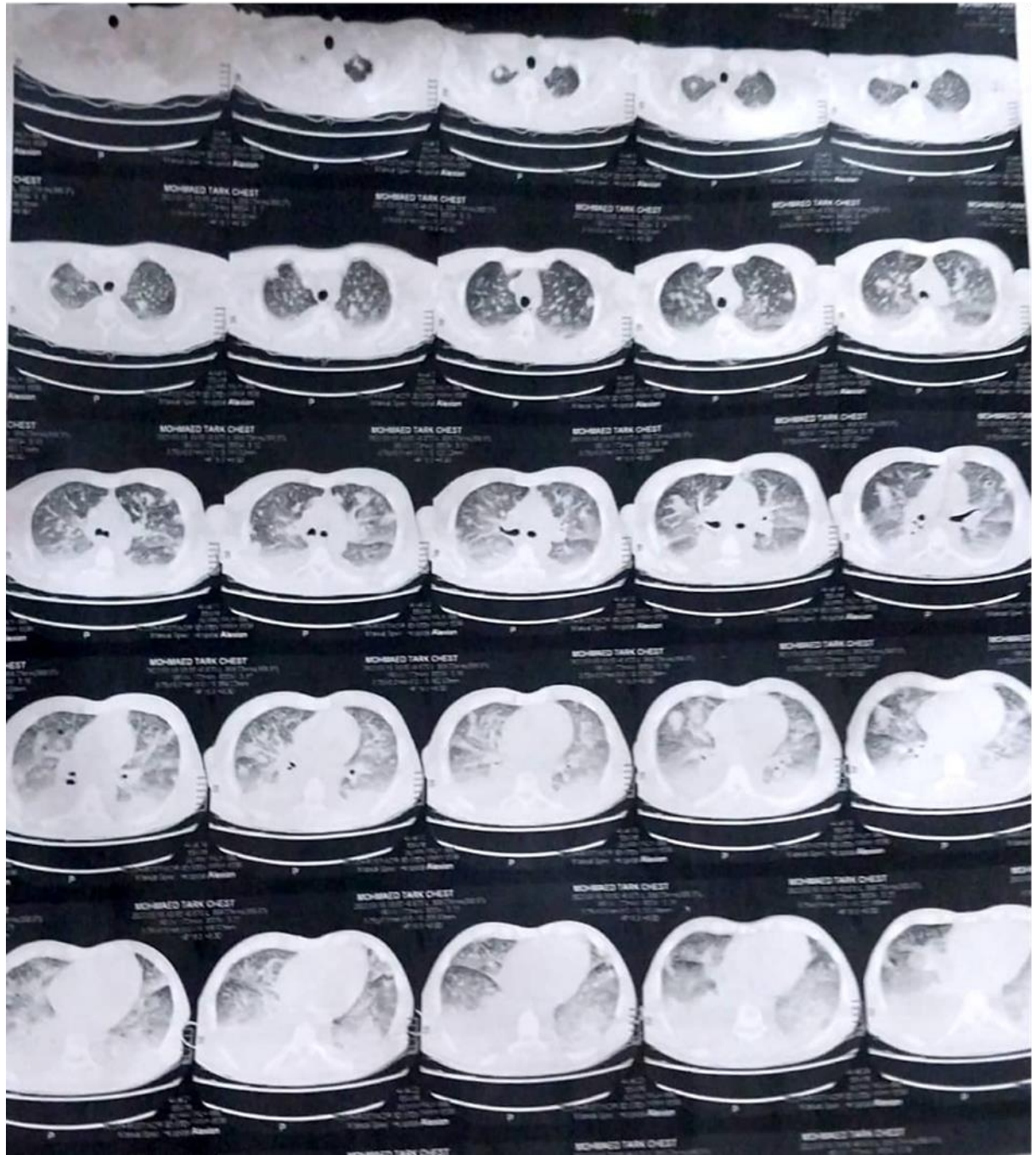
DHR S1(asses neutrophil response to stimulus to know if tis functioning)	831 On ref >70
Serum igA	Normal
Serum igG	Normal
Serum igM	Normal
CD 3 (asses T lymphocyte) CD 3+CD4+ CD3+CD8+	Normal
CD 19 (asses B lymphocyte) helps in lymphoma diagnosis	Normal
CD3-CD56+(marker in non hodgkin lymphoma)	Normal

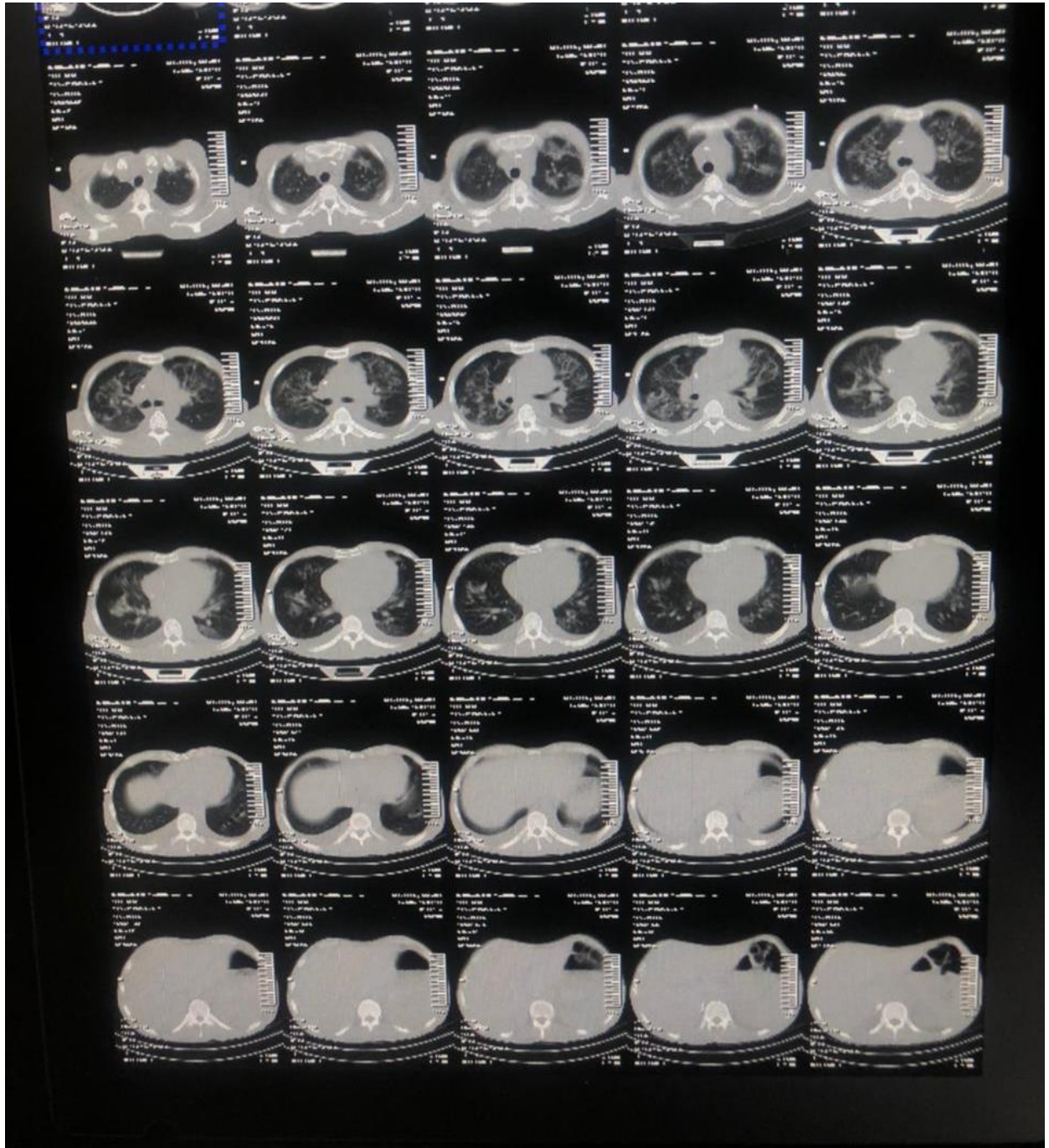
Chest condition








MOHMED TARK CHEST



Septic condition

TLC	21000	8000
Staff	10	3
Segmented	73	62
CRP	265	10
ESR	115	10
Procalcitonin	70	.06
creatinine	2.1	.9
Fluid C&S	MRSA	no growth

Echocardiography

LVED	4.6	LA	3.9
LVES	3.3	EPASP	32
EF	64%		

Moderate eccentric posteriorly directed mitral incompetence

Psychiatry consultation

Physical therapy

Nutrionist

August		
1/8/2023	in bed Exercises + sitting + LL Strengthing Ex	Dr/ Aya
2/8/2023	Standing alone + Bike + in bed Exercises	Dr/ Kholoud
3/8/2023		
5/8/2023	sitting Ex, LL Ex, Standing w2 Assistance	Dr. Kholoud
6/8/2023	LL exercise, SiT To STand + bike + SLR + bridging + STand with assist + walking few steps	Dr. Rana
8/8/2023	LL Ex, Sit To Stand + in bed Ex + walking around bed	Dr. Kholoud
13/8/2023	LL EX, SiT To STand + Gait Training long distance	Dr. Rana
15/8/2023	LL Ex, Sit To Stand + Patient Refused To ambulate	Dr. Kholoud

Tropical Pyomyositis

Bitoti Chattopadhyay, Mainak Mukhopadhyay, Atri Chatterjee, Pijush Kanti Biswas, Nandini Chatterjee

Tropical pyomyositis is characterized by suppuration within skeletal muscles, manifesting as single or multiple abscesses. Though primarily a disease of tropics, it is increasingly being reported from temperate regions in immunosuppressed patients.

The mean age of the patients was 25 years (range 20-40 years). Among 12 patients, 10 patients were male and two patients were female (Male:Female = 5:1).

Muscles involved	No. of patients	Percentage
Quadriceps femoris	6	50
Iliopsoas	3	25
Gluteus maximus	1	8.33
Pectoralis major and supraspinatus	1	8.33
Multiple muscle groups involving biceps, gastrocnemius, anterior abdominal wall and paraspinal muscles	1	8.33

Causative organism isolated	No. of patients	Percentage
Staphylococcus aureus	9	75
Klebsiella pneumoniae	1	8.33
No growth (sterile pus)	2	16.67

Future plan

- continue medical treatment

  Nebivelol 5 mg

  Ramipril 5 mg

- follow up in infective endocarditis clinic

- assessment of mitral valve every 6 months

Thank you