API DSC-32ND ANNUAL CONFERENCE-2022-SCIENTIFIC FORUM

Presenting by – Dr Akshay D

Under guidance –Dr. (prof) Ratnakar Sahoo
Dr. Nitin Rustogi (SR medicine)
ABVIMS and Dr RML HOSPITAL

PRESENTING COMPLAINTS

- 74 year old male patient
- Burning micturition-10 days
- Fever – 8 days

HISTORY OF PRESENTING COMPLAINTS

- Fever documented to be 101º-102º f without diurnal variation .
- associated with chills and rigor ,3-4 spikes daily .
- Relieved by medication.
- Decreased appetite and malaise was present
- Burning micturition and increased frequency of micturition present

PAST HISTORY

- Known to be hypertensive for 10 years, compliant to medication
- Treated for pulmonary Koch's 12-15 years back.

PERSONAL HISTORY

- Works in paper printing centre, continued working till onset of fever
- Reformed smoker since age 50, 4.5 pack years.
- Do not consumes alcohol
- Takes mixed diet
- Bladder habits- has dysuria, urinary hesitancy for past 3-4 months
- Bowel habits – no alteration in bowel habits
- No known allergies
- No recent travel history

FAMILY HISTORY

- No significant family history

TREATMENT HISTORY

- Vaccinated against covid-19, 3 doses of covaxin taken
- Telmisartan 40 mg od for hypertension
- No history of blood transfusion

GENERAL EXAMINATION

- Patient looks to be his age, he is sitting . Conscious and oriented to time ,place and person.
- Weight-68 kg, height- 165 cm
- BMI – 25 kg/m2
- PR-115/min, regular rhythm, normal volume and no specific character, no radioradial or radiofemoral delay, no arterial wall thickening
- BP-120/80 mmhg on right arm in supine position
- RR- 18/ min, regular rhythm , abdominothoracic type

- Pallor+, icterus(-),cyanosis(-),clubbing(-),lymphadenopathy(-),

Pitting type of pedal oedema (+)

- Skull and spine normal

RESPIRATORY SYSTEM

- UPPER RESPIRATORY TRACT EXAMINATION
- NOSE-No congestion,discharge,crusting or polyp, no septal deviation
- No maxillary sinus,frontal or ethmoid tenderness
- No mouth breathing, poor oral hygiene, no oral ulcers/thrush
- Posterior pharyngeal wall –normal

INSPECTION

- Shape of the chest- elliptical
- Symmetry of chest- crowding of ribs in left side
- Movement of the chest- decreased in left side of chest
- Position of trachea- deviated to left, Trail's sign –positive
- Respiration- rate -18/min, regular rhythm, abdominothoracic type, no accessory muscle use
- Apical impulse- not visible
- No prominent veins

- **PERCUSSION**
- Resonant over all lung fields over right side
- Impaired dullness over left supraclavicular, infraclavicular,mammary area,infra axillary ,axillary and infrascapular regions
- **AUSCULTATION**
- Normal vesicular breath sounds over all lung fields of right side
- Absent breath sounds over left supraclavicular, infraclavicular,mammary,infra-axillary and infrascapular region

Per Abdomen

- Tympanic note on percussion
- No renal angle tenderness, no organomegaly

CVS examination

Apex palpable at 5th ICS 1cm lateral to midclavicular line

S1 s2 present, no murmur, no pericardial rub

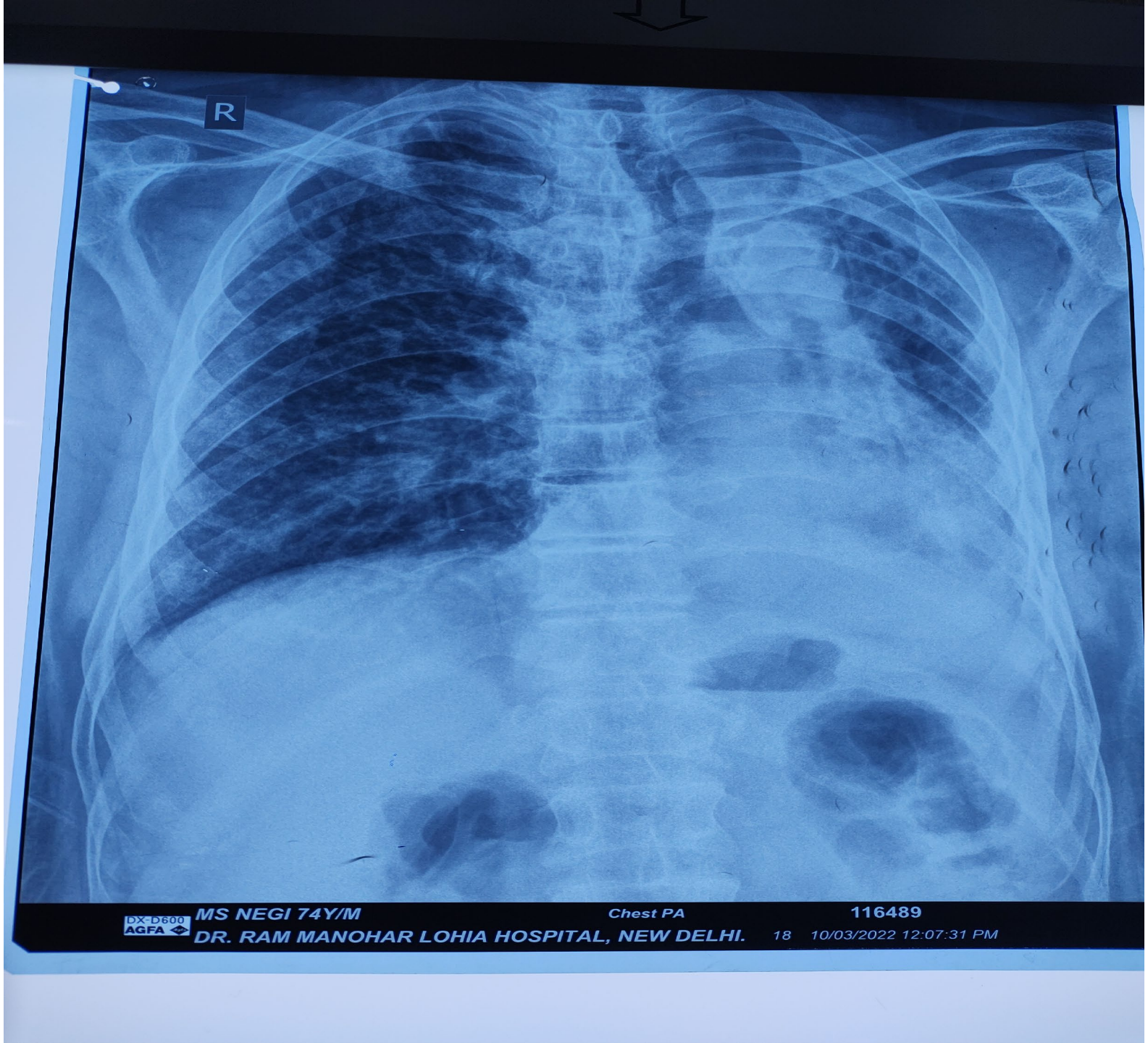
NS examination

HMF – intact

No neurological deficits

DIAGNOSIS

- UTI / Anemia /collapse left lung (?post TB destroyed lung)


R
DX-D600
AGFA
MS NEGI 74Y/M
Chest PA
116489
DR. RAM MANOHAR LOHIA HOSPITAL, NEW DELHI.
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10/03/2022 12:07:31 PM

INITIAL LAB PARAMETERS

Test	value
Hb	8.5
Tc	38,400
Dc	P95L4M1
Platelet	3.7 lakh
MCV	78
Urea/cr	44/1.5
Uric acid	5.7
T.Bil	0.5
OT/PT	50/26
ALP	79
TP/ALB	5.5/2.6
Na/K	126/3.88

URINE RM

test	value
Color	straw
RBC	1
WBC	8-10
RBC cast	nil
Bacteria	+ve
Glucose	nil
Protein	nil
Specific gravity	1.006

URINE CULTURE AND SENSITIVITY ORGANISM-KLEBSIELLA PNEUMONIAE

sensitive	Resistant
Amikacin	cefixime
Amoxicillin + clavulanic acid	ciprofloxacin
levofloxacin	Nalidixic acid
meropenem	norfloxacin
Pipracillin+tazobactum	Tetracyclin

WORK UP OF ANEMIA

Peripheral smear-normocytic normochromic to microcytic hypochromic mild anisopoikilocytosis, neutrophilic leucocytosis

TEST	VALUE	NORMAL RANGE
IRON	15	60-150
TIBC	275	250-400
SAT	5.5	20-35
S FERRITIN	248	6.40-464

VITAMIN B 12	166
STOOL FOR OCCULT BLOOD	NEGATIVE

Thyroid function test

Thyroid function test		Normal range
TSH	8.0	0.34-5.32 IU/ml
fT3	2.12	2.5-3.9 pg/ml
fT4	1.21	0.61-1.12 ng/dl
ANTI TPO	37.13	0-10 IU/ml

FINAL DIAGNOSIS

- Complicated UTI(klebsiella pneumonia)/ Sepsis/Anemia (AOCD,VIT B12 Def)/AKI/Hypertension/Hypothyroidism

COURSE DURING FIRST WEEK

- Patient was started on injection piperacillin and tazobactam in renal modified doses, along with eldervit and iv fluids.
- Lab parameters and fever were charted.
- Fever and malaise was persistent, appetite no improvement.
- TLC decreased from 34k to 19k.

s.procalcitonin

10/03/22	12/03	14/03	16/03
2ng/ml	≥10ng/ml	≥10ng/ml	negative

Test	13/04/2022
Blood c and s	sterile
Urine c and s	sterile

3 serial urine samples for AFB	negative
URINE for TB PCR	negative

COURSE DURING SECOND WEEK

- Antibiotics were continued for 1 more week

- After 2 week's of antibiotics patient was still febrile and counts were fluctuating between 19k to 21k.
- Repeated blood and urine cultures were negative along with procalcitonin , we investigated the patient on lines of PUO
- Planned for 2D echo, Bone Marrow aspiration and CECT chest and abdomen

TYPHIDOT WIDAL BLOOD CULTURE	IGM IGG negative NEGATIVE STERILE
MALARIA CARD TEST	NEGATIVE
LEPTOSPIRA IGM	NEGATIVE
SCRUB TYPHUS IGM	NEGATIVE
CHICKUNGUNYA IGM	NEGATIVE
DENGUE IGM/NS1	NEGATIVE

TEST by ELISA	RESULT
HIV 1 & 2	Negative
HBsAg, Anti HCV	Negative

Fungal studies	
Sputum for fungal c & s	sterile
s.Precipitins against Aspergillus fumigatus,flavus,niger	negative
s.galactomannan	negative

CECT KUB done which showed bilateral pyeloureteritis

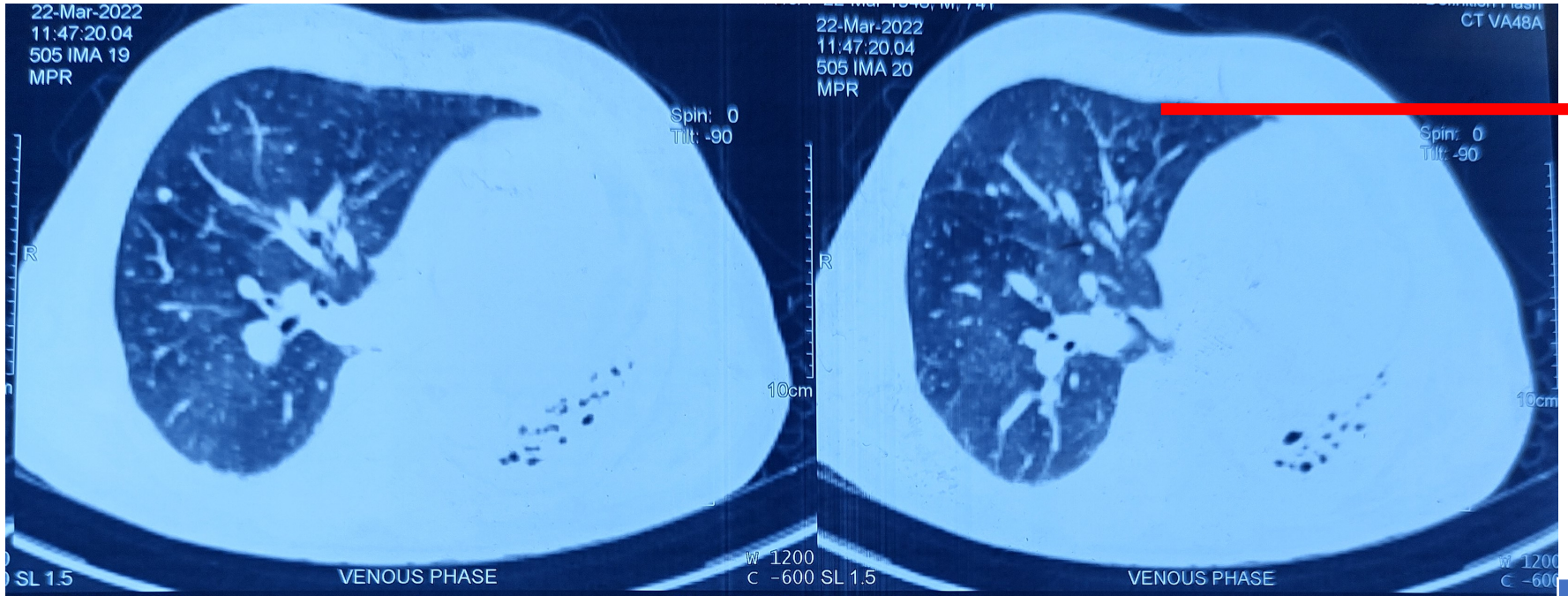
Right kidney measures 10 x 5.3 cm and is normal in shape, size and position. Pelvicalyceal system is not dilated ,however there is wall of pelvis and ureter appears thickened and shows post contrast wall enhancement and associated peri-pelvic and peri-uretric fat stranding .

Left kidney measures 10 x 4.2 cm and appears normal in size, shape and position. Pelvicalyceal system is not dilated. However, the walls of the pelvis appear thickened with post contrast wall enhancement and associated peri-pelvic and peri-uretric fat stranding .

Bilateral lateral conal and anterior pararenal fascia shows fat stranding.

Bilateral kidneys show normal excretion.

Urinary bladder is partial distended. No mural thickening seen. No radio opaque calculus seen.



Tree in bud pattern

Test	Result
SPUTUM FOR AFB	negative
SPUTUM CBNAAT	Not detected

COURSE DURING 4TH WEEK

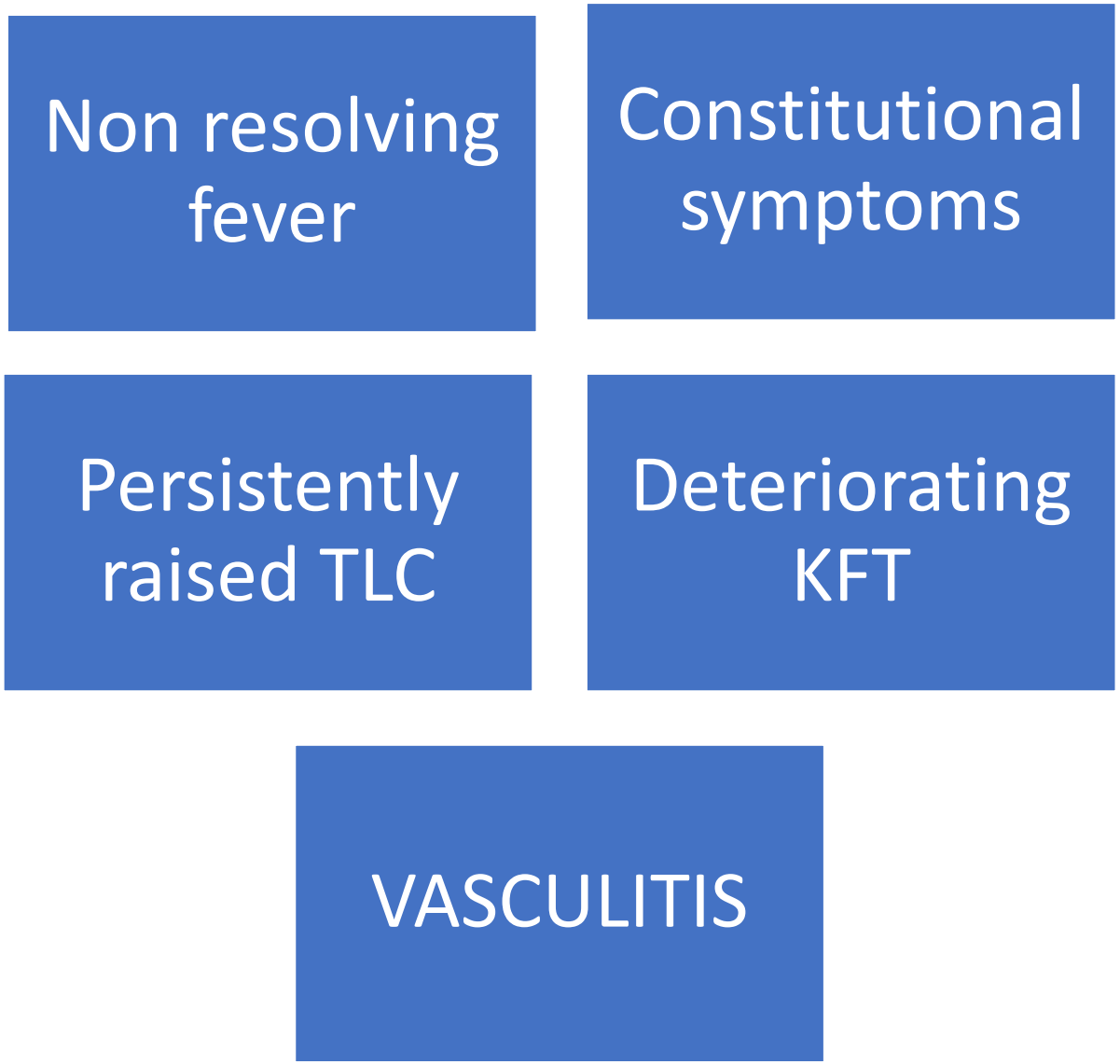
- fever and constitutional symptoms were not improving.
- Concurrently patients TLC counts were increasing
- KFT deteriorated
- urine rm showed 10-15 RBC's/hpf, 3+ proteinuria

	18/03	22/03	25/03	28/03
Urea/cr	22/1.57	31/1.5	34/1.7	33/1.91

- Urine for dysmorphic RBC's were negative but 24 Hr urine protein was 1.2 gm
- Cause for deteriorating KFT- AIN?(Antibiotic induced)

  contrast induced nephropathy?

  glomerulonephritis

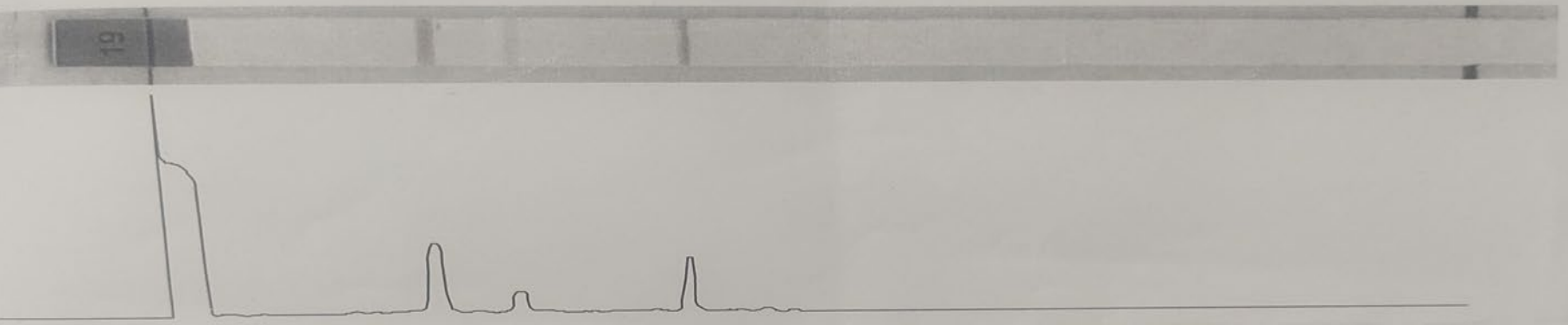

Non resolving fever
Constitutional symptoms
Persistently raised TLC
Deteriorating KFT
VASCULITIS

DR.R.M.L.HOSPITAL
BABA KHARAG SINGH MARG
DELHI

Surname: 12803
Name: MS NEGI
Date of Birth:

Sample ID: PS-409
Date: 28-03-2022

Template ID: 0000971
Position: 17



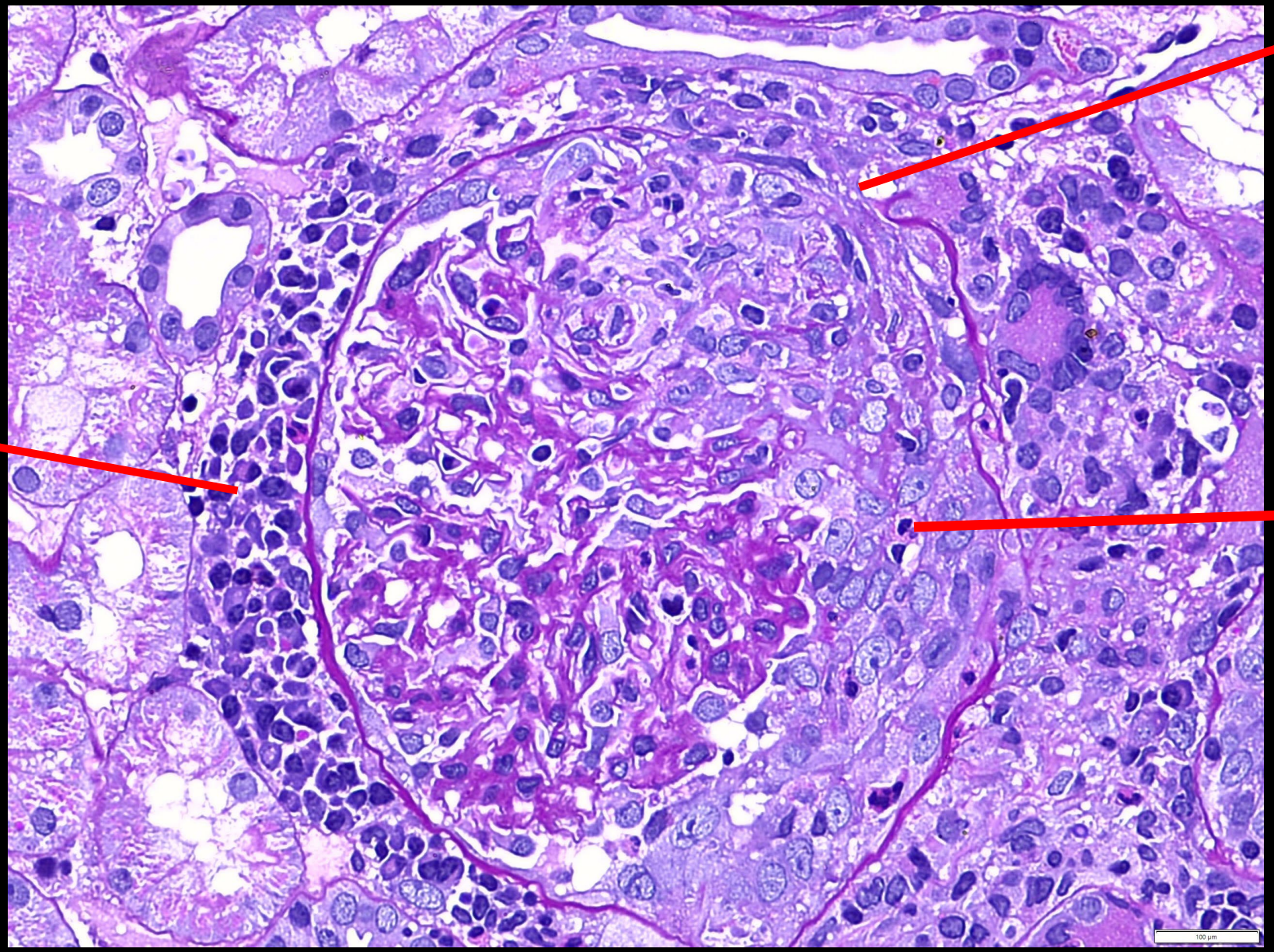
Antigen	Rating	Index	-	o	+	++	+++
PR3	–						
MPO	++	2.67					
GBM	–						

PROFILE – POSITIVE FOR AUTO ANTIBODIES TESTED AGAINST THE ABOVE MENTIONED ANTIGENS

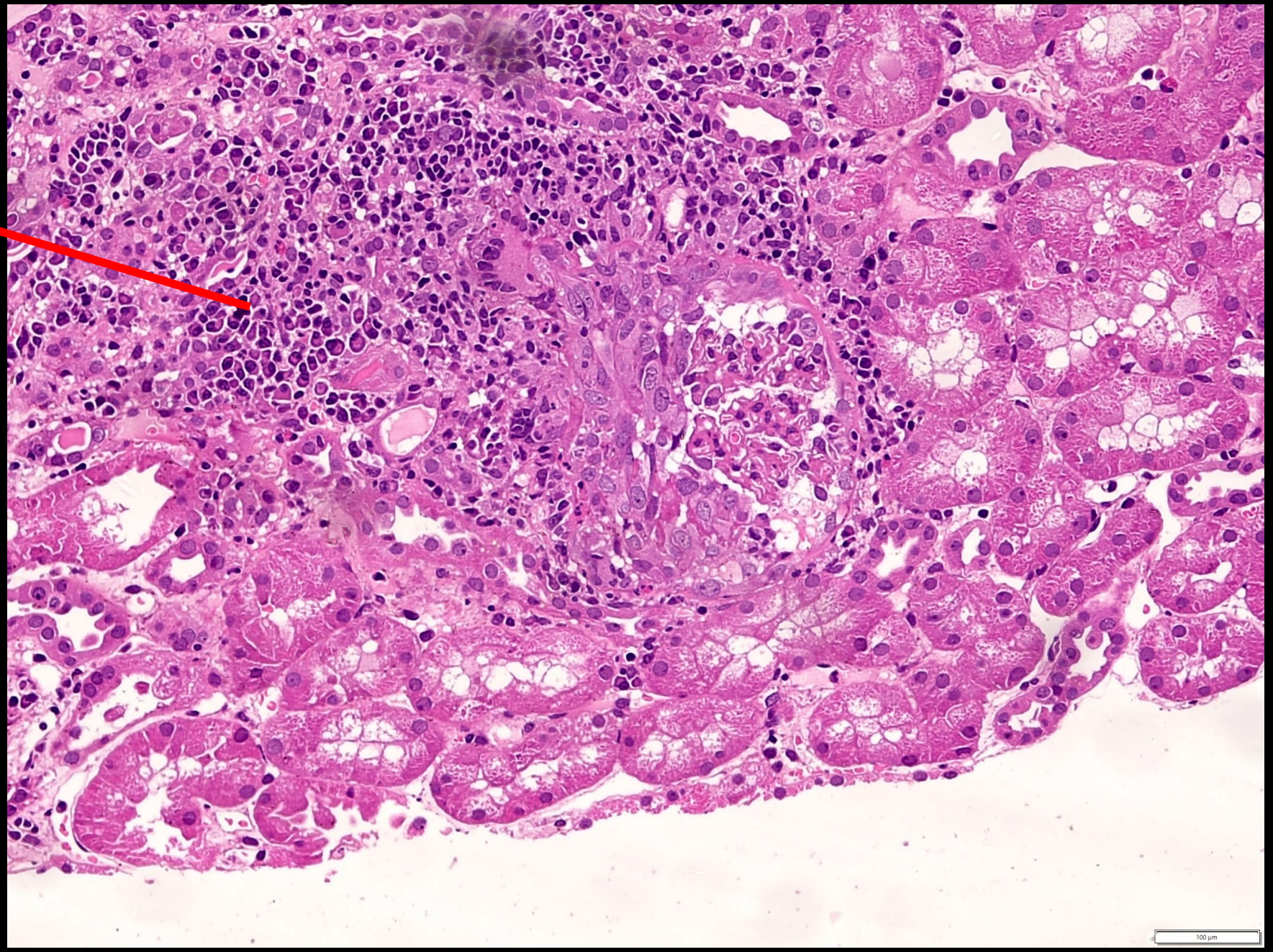
डॉ. अनु शर्मा / Dr. Anu Sharma
वरिष्ठ निवासी / Resident
Microbiology Dept.
Signature

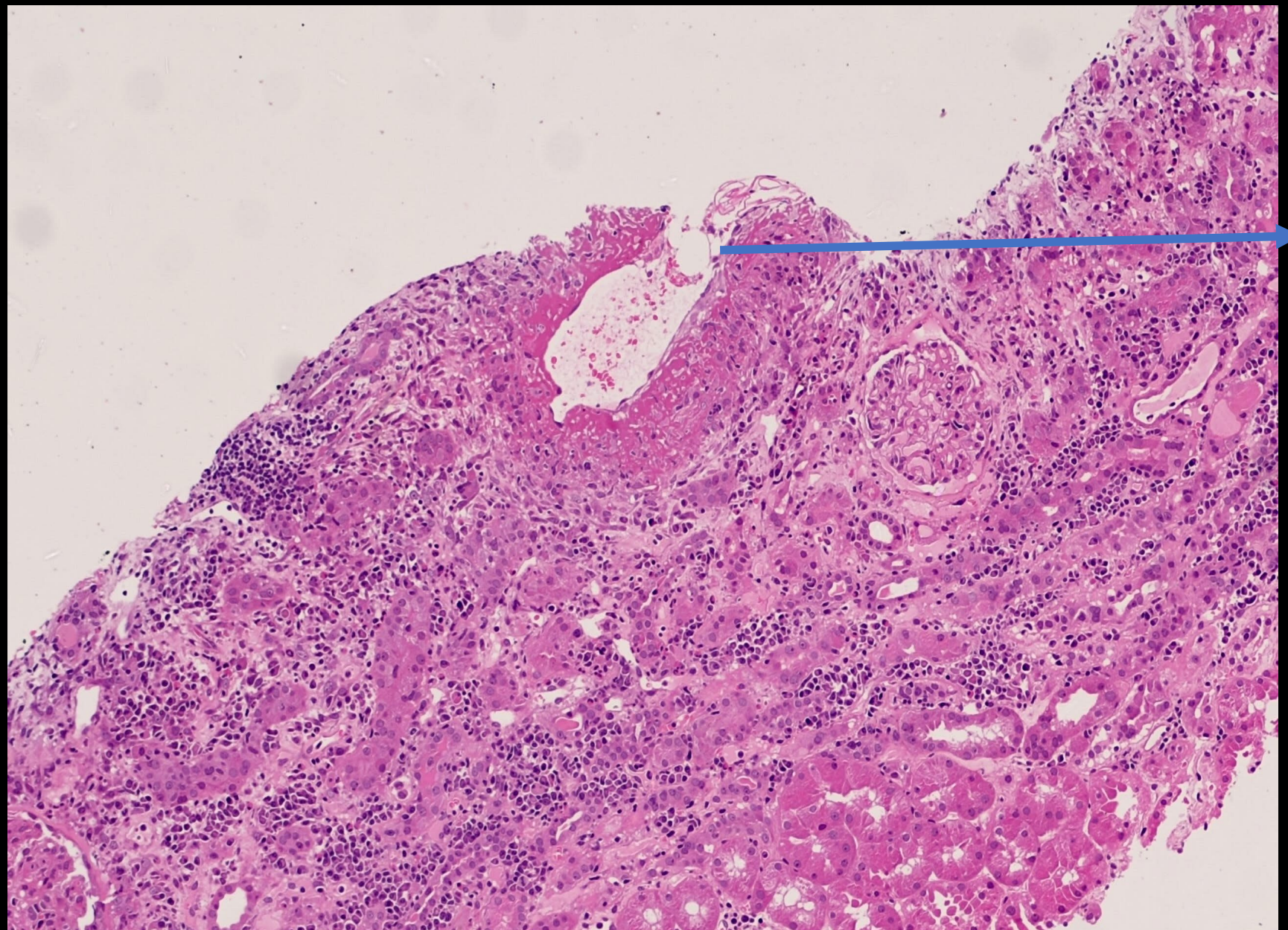
P –ANCA
by ELISA
POSITIVE

TEST	RESULT	REFERENCE RANGE
ANA	NEGATIVE	
ENA	NEGATIVE	
C3	80 mg/dl	75-135 mg/dl
C4	19 mg/dl	9-36 mg/dl


Breakage of bowmanns capsule
Cellular reaction around glomerulus
crescent

Dense lymphoplasmacytic reaction




Medium sized
vessel showing
fibrinoid necrosis
in its wall

RENAL BIOPSY

- Glomeruli show presence of partial cellular crescents with rupture of bowmans capsule.
- Tubulointersitial compartment shows dense lymphoplasmacytic infiltrate
- Medium sized blood vessel show fibrinoid necrosis in its wall
- IF – staining did not showed any significant immune deposits(IgG,IgA,IgM,c3 and c1q are negative)
- One medium vessel showed strong fibrinogen positivity in vessel wall denoting fibrinoid necrosis.

Pauci-immune crescentic glomerulonephritis with necrotizing vasculitis

ANCA ASSOCIATED VASCULITIS

- Retrospectively we started to search for signs and symptoms which would help to categorize among EGPA,GPA and MPA.
- Patient has no eosinophilia or symptoms s/o COAD
- ENT examination – nasal cavity showed no ulcers, crusting, septal defect or perforation.
- Tympanic membrane is intact and no congestion present

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2022 American College of Rheumatology/European Alliance of Associations for Rheumatology Classification Criteria for Microscopic Polyangiitis

Ravi Suppiah,[1] Joanna C. Robson,[2] Peter C. Grayson,[3] Cristina Ponte,[4] Anthea Craven,[5] Sara Khalid,[5] Andrew Judge,[6] Andrew Hutchings,[7] Peter A. Merkel,[8] Raashid A. Luqmani,[5] and Richard A. Watts[9]

This criteria set has been approved by the American College of Rheumatology (ACR) Board of Directors and the European Alliance of Associations for Rheumatology (EULAR) Executive Committee. This signifies that the criteria set has been quantitatively validated using patient data, and it has undergone validation based on an independent data set. All ACR/EULAR-approved criteria sets are expected to undergo intermittent updates.

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CLASSIFICATION CRITERIA FOR **MICROSCOPIC POLYANGIITIS**

CONSIDERATIONS WHEN APPLYING THESE CRITERIA

- **These classification criteria should be applied to classify a patient as having microscopic polyangiitis when a diagnosis of small- or medium-vessel vasculitis has been made**
- **Alternate diagnoses mimicking vasculitis should be excluded prior to applying the criteria**

CLINICAL CRITERIA

Nasal involvement: bloody discharge, ulcers, crusting, congestion, blockage or septal defect / perforation	-3

LABORATORY, IMAGING, AND BIOPSY CRITERIA

Positive test for perinuclear antineutrophil cytoplasmic antibodies (pANCA) or antimyeloperoxidase (anti-MPO) antibodies ANCA positive	+6
Fibrosis or interstitial lung disease on chest imaging	+3
Pauci-immune glomerulonephritis on biopsy	+3
Positive test for cytoplasmic antineutrophil cytoplasmic antibodies (cANCA) or antiproteinase 3 (anti-PR3) antibodies	-1
Blood eosinophil count ≥ 1 x10^9/liter	-4

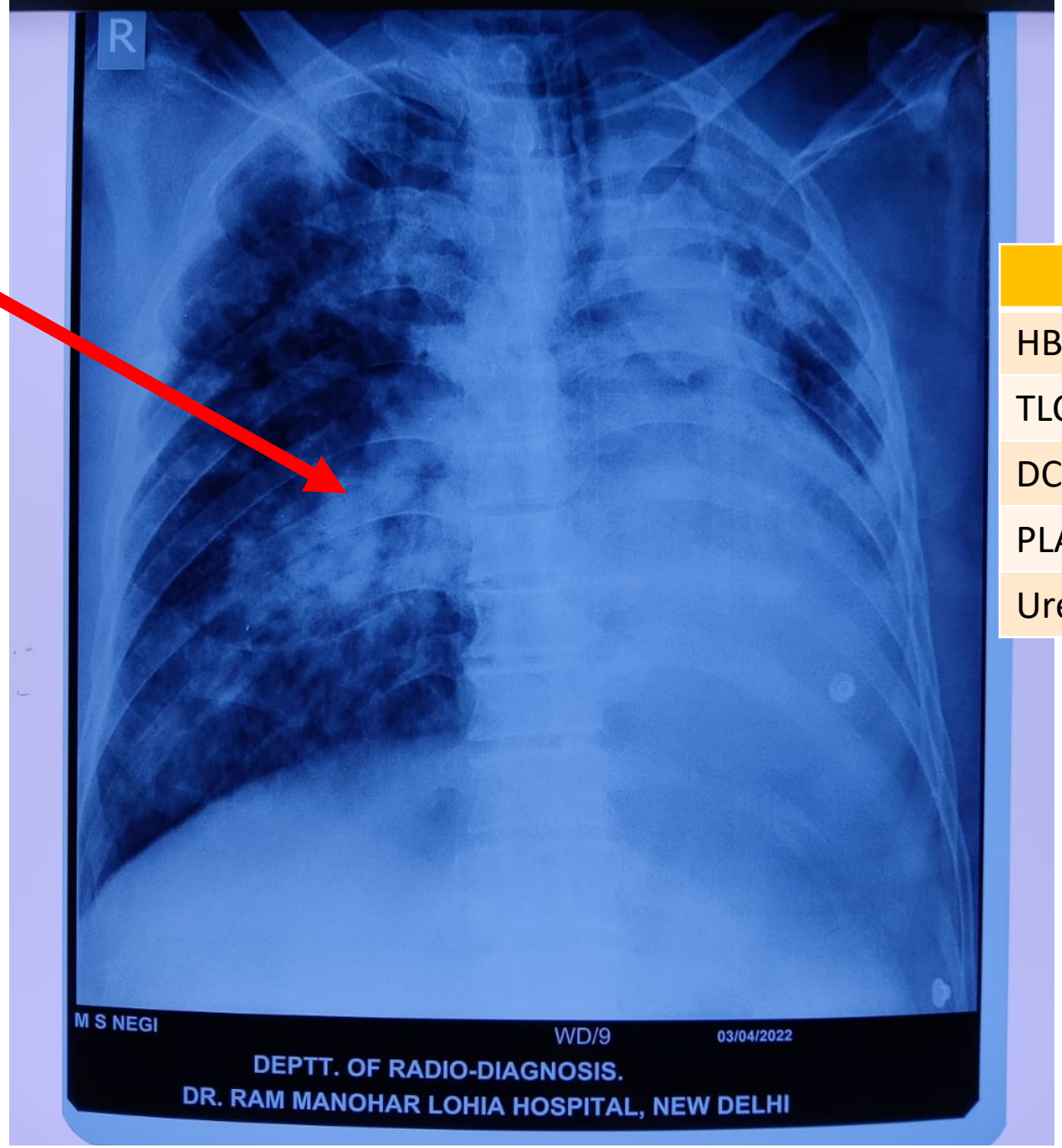
Sum the scores for 6 items, if present. A score of ≥ 5 is needed for classification of MICROSCOPIC POLYANGIITIS.

- As patient is having organ threatening disease here active glomerulonephritis , induction with immunosuppressive therapy planned
- Rituximab was not affordable by the patient
- Glucocorticoids in combination with cyclophosphamide started
- Trimethoprim sulfamethoxazole added

- 1st dose of cyclophosphamide 250 mg iv given and 2 doses of methylprednisolone 250 mg given.

- Patient started having hemoptysis on second day of immunosuppression and later had to be intubated in view of respiratory distress and poor GCS.

- Chest x ray showed new infiltrates over right lung field



	01/04/22	02/04/22
HB	6.3	5.9
TLC	23,600	27,600
DC	P80L12E5	P84L8E6
PLATELET	4.21 L	4.72L
Urea/Cr	63/2.7	72/3.15

FINAL DIAGNOSIS

- ANCA Associated Vasculitis(Microscopic polyangiitis)/
- RPGN type 3
- ?Diffuse alveolar hemorrhage/pulmonary koch’s
- Hypothyroidism/Hypertension/Severe Anemia

To remember

- Elderly onset
- Fever and constitutional symptoms prior to RPRF
- Predominantly small vessel vasculitis not exclusively small vessel vasculitis
- Early suspicion and aggressive management