A Fifty-Three-Year-Old Gentleman with Body Ache, Weakness and Headache

PRESENTER: DR. TARIQ HUSAIN

MEDICINE UNIT-XI

DHAKA MEDICAL COLLEGE AND HOSPITAL

Particulars:

Name: Mr. B

Age: 53 Years

Gender: Male

Marital Status: Married

Religion: Hinduism

Occupation: Farmer

Present Address: Mouchak, Gazipur

Date of Admission: 22-08-19

Date of Examination: 22-08-19

Admitted Through: Emergency Department

Taken With Permission Of The Patient

Chief Complaints

Body Ache for Four Months

Weakness for Three Months

Headache for One Month

HISTORY PROPER

History of Present Illness

According to the statement of the patient he was reasonably well four months ago, thereafter, he started experiencing **generalized body aches** which were gradual in onset, static in course, dull aching in nature and constantly present throughout the day (and night). It was not associated with any specific joint pain or swelling, morning stiffness, skin rashes, nail changes or trauma.

History of Present Illness: Cont.

The gentleman also experienced **generalized weakness** for 3 months which was gradual in onset, progressively increasing in severity with no diurnal variations. His weakness was also associated with tiredness, dizziness, lightheadedness and effort intolerance.

His dizziness was present throughout the course of his illness and not restricted to getting up from a sitting position.

History of Present Illness: Cont.

For the past one month he also complained of a diffuse headache which was gradual in onset, fluctuating in severity, dull-aching in nature and not confined to a specific site. It had no radiation, precipitating or aggravating factors nor any diurnal variations. It was not associated with neck stiffness, photophobia, phonophobia or aura. The patient also denied any loss of consciousness or seizures.

History of Present Illness: Cont.

Further questioning revealed a history of **undocumented fever and dry cough** with occasional scanty muco-purulent sputum. He denied any history of chills, rigors & night sweats. He had an unintentional weight loss of about 10 kg for the past four months. He reported no significant changes in his diet, lifestyle, or appetite.

History of Present Illness: Cont.

There was no history of seizures, loss of consciousness, visual impairment, speech or swallowing difficulties, hearing impairment, weakness of limbs or any half of the body. He denied any history of palpitations, breathlessness, abdominal pain or distension, alteration of bowel habit, urinary complaints, contact with tuberculous patients, substance abuse or sexual promiscuity.

History of Present Illness: Cont.

On query he gave a history of occasional low back pain for the past 7 to 8 years which started gradually was aggravated with movement and relieved by rest and painkillers. There was no associated radiation, night pain, and bowel or bladder involvement. He took Nonsteroidal Anti-Inflammatory Drugs (NSAIDs) irregularly for the past 7 to 8 years and regularly for the past 2 years.

History of Past Illness

After consulting physicians in Bangladesh he went to India 3 months ago and was diagnosed as a case of monoclonal gammopathy with acute kidney injury on the basis of his history, physical examinations and relevant investigations. For confirmation of his diagnosis, he was advised to do a bone marrow aspiration, however, he refused further investigations and returned home.

Drug and Treatment History

For all his complaints, he consulted several local physicians and was treated symptomatically with various drugs of different classes; the names and doses of those drugs, he could not recall.

The patient did; however, deny taking any supplementations or vitamin pills for his well being.

Family History

He is married for 28 years; has two sons and one daughter; has two brothers and three sisters; all of them including his wife are in good health. There was no history of such type of illness running through the family. His father died naturally about 10 years back. His mother is alive and in good health. He comes from non-consanguineous parents.

Personal History

He was a smoker for 30 years and quit smoking 6 months ago. He has a smoking history of 35 pack-years. He is non-alcoholic and denied any history of other substances abuse in any form or through any route. He is habituated to a typical Bengali diet.

Socio-Economic History

He lives in a tin shed house and has access to proper hygiene and sanitation. He belongs to a lower-middle class family.

Immunization History

He was immunized as per given schedule; couldn't mention anything regarding EPI schedule.

History of Allergies

He gave no history of allergy to any food, dust, pollen or animal dander.

Psychiatric History

There was no psychiatric illness afflicting him or any of his family member.

Examinations

General Examination:

- Ill-looking
- Malnourished
- Anemic
- Dehydrated
- Dry and coated tongue
- Blood Pressure: Normal Without Any Postural Drop
- Urine Dipsticks: Normal
- Oxygen Saturation on Air: Normal

Respiratory Examination:

Inspection & Palpation - Increased Anteroposterior Diameter

Percussion – Resonant

Auscultation:

- **Vesicular with Prolonged Expiration**
- **Rhonchi & Coarse Crepitations (Post-Tussive Alteration)**

Other Systemic Examinations Revealed

No Abnormalities

Salient Features

Salient Features

Mr. B, a 53-year-old, married, farmer from Mouchak, Gazipur was admitted in this hospital on the 22nd of August of this year with complaints of **generalized body ache for four months, generalized weakness for three months and headache for one month.**

He has no past medical history of hypertension, diabetes, or asthma. He is a non-alcoholic ex-smoker (35-pack-year).

Salient Features

According to the statement of the patient he was reasonably well four months ago, thereafter, he started experiencing generalized body aches which were gradual in onset, static progression, dull aching in nature and constantly present throughout the day and nigh).

It was not associated with any specific joint pain or swelling, morning stiffness, skin rashes, nail changes or trauma.

Salient Features

The patient also experienced generalized weakness for 3 months which was gradual in onset, progressively increasing in severity, with no diurnal variations. His weakness was also associated with fatigue, dizziness, lightheadedness and effort intolerance.

The patient also mentioned that his weakness was not restricted to a specific part of his body.

Salient Features

For the past one month he also complained of a diffuse headache which was gradual in onset, fluctuating in severity, dull-aching in nature and not confined to a specific site. It had no radiation, precipitating or aggravating factors nor any diurnal variations.

It was not associated with neck stiffness, photophobia, phonophobia or aura. The patient also denied any loss of consciousness or seizures.

Salient Features

Further questioning revealed a history of undocumented fever, dry (occasionally productive) coughs, nausea, unintentional weight loss of about 10kg (60kg→50kg) for the past four months. He reported no significant changes in his diet or lifestyle. His cough was non-productive and he could not describe his chest pains properly. He denied any history of night sweats.

Salient Features

The gentleman also complained of occasional low back pain for about 7 to 8 years which was gradual in onset, non-traumatic and dull aching. There was no radiation or pain in other joints. There was no morning stiffness or any night pain. His back pain was relieved by pain killers and rest. He took various nonsteroidal anti-inflammatory drugs (NSAIDs) irregularly for the past 7 to 8 years and regularly for two years.

Salient Features:

He consulted various physicians in Bangladesh. Thereafter he went to India 3 months ago and after evaluation it was found that he had 'M band on Serum Capillary Immunoglobulin Electrophoresis.'

Subsequently he was suspected of having monoclonal gammopathy with acute kidney injury. Thereafter he was advised to do a bone marrow aspiration but he refused further investigations and came back to Bangladesh.

Salient Features

He was a smoker for 30 years measured by 35 pack-years and quit smoking 6 months ago. He does not have any other significant history.

Salient Features

On general examination: the gentleman was found to be ill-looking, malnourished, anemic, dehydrated, with a dry and coated tongue. His blood pressure was 120/80 mm Hg without any postural drop. His urine dipstick was normal as was his oxygen saturation on room air.

Salient Features

Respiratory system revealed an increased anteroposterior diameter, with diminished chest movements symmetrically. The percussion note was resonant and breath sounds were vesicular with prolonged expiration. Added sounds showed the presence of rhonchi and coarse crackles with post-tussive alteration. Others systemic examinations were normal.

Problem List:

Symptoms:

Body Ache – 4 Months
Weakness – 3 Months
Headache – 1 Month

History:

NSAIDs for 8 Years
Ex-Smoker (35 Pack-Year)
Low Back Pain 7 to 8

Signs:

Anemia
Dehydration
Weight Loss (10 kg)
Respiratory – Vesicular, (Prolonged), Rhonchi, Crackles

What is the Provisional Diagnosis?

Provisional Diagnosis

Chronic Obstructive Pulmonary Disease
with Multiple Myeloma
with Acute Kidney Injury

Differential Diagnoses

Chronic Obstructive Pulmonary Disease
With Acute Kidney Injury With:

1. Primary Hyperparathyroidism
2. Sarcoidosis
3. Osteoporosis
4. Bone Metastasis (Primary Unknown)

Investigations

Complete Blood Count

Parameters	7.8.19	22.8.19
1) Hemoglobin	**8.1 g/dl**	**8.8 g/dl**
2) ESR	**104mm in 1st hr**	**51mm in 1st hr**
3) WBC	7.0x10^9/ltr	11 x 10^9/cumm
4) Neutrophil	0.60x10^9/ltr (80%)	0.79×10^9/ltr (88%)
5) Lymphocyte	0.91 K/µL (13%)	0.89 K/µL (13%)
6) RBC	3.46 million/dL	4.35 million/dL
7) HCT	18.40%	26.5%
8) MCV	53.20 fL	60.9 fL
9) MCH	18.5 pg	20.2 pg
10) MCHC	34.8g/dL	33.2 g/dL

Urine Routine and Microscopic Exams.

Physical Examination			**Volume**	**10 ml**
			Colour	Straw
			Appearance	Clear
			Sediment	Nil
			Specific Gravity	1.012
Chemical Examination			Albumin	Nil
			Sugar	Nil
			pH	6.5
Microscopic Examination	Organized Sediment	Cells	Pus Cell	0-2/HPF
			Epithelial Cell	1-2/HPF
			RBC	Nil
		Casts		Nil
	Unorganized Sediment	Others	Protozoa	Nil
		Crystals		Nil
		Fat Droplet		Nil

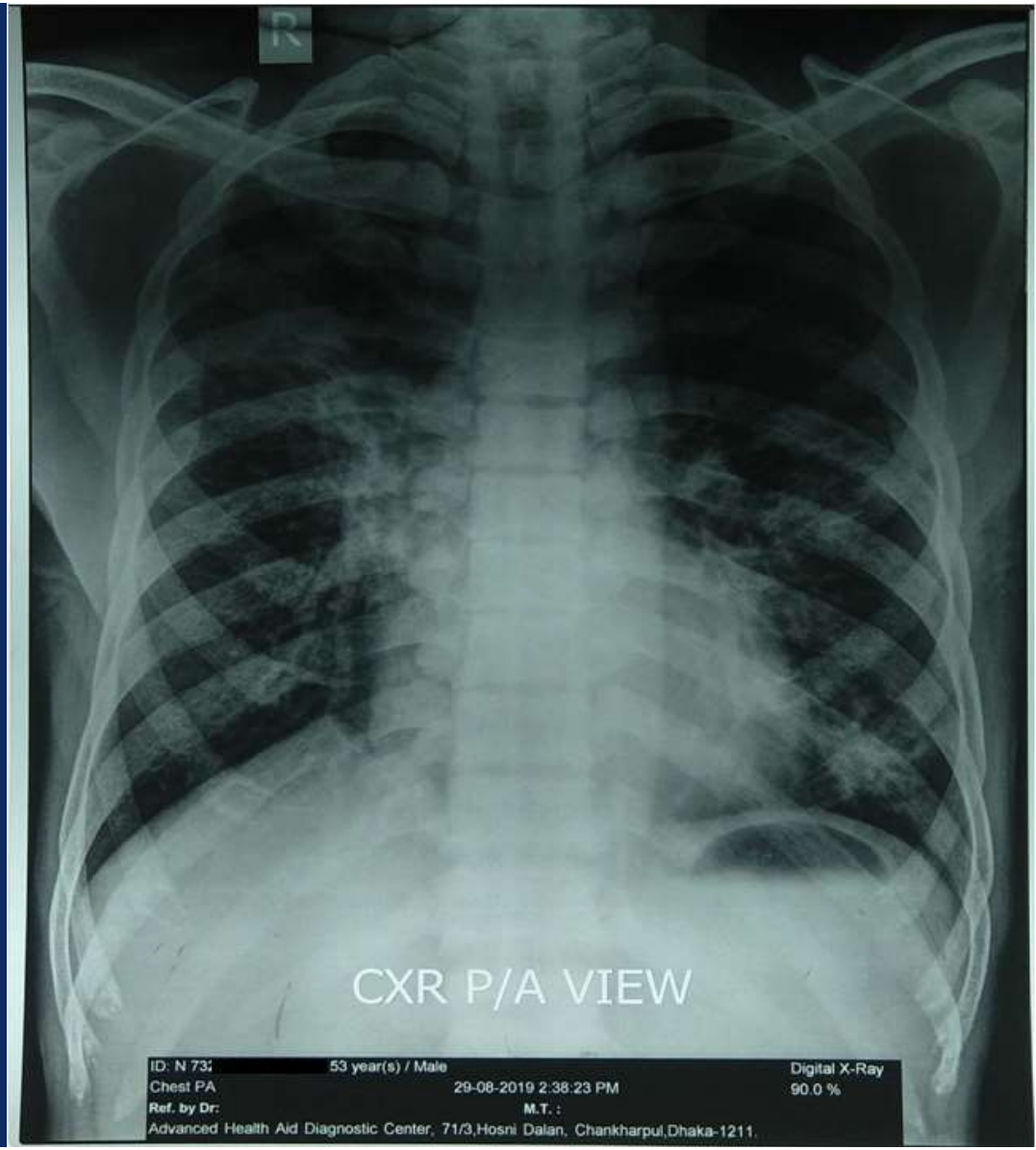
Serum Electrolytes and Creatinine

Name	Date	Result
S. Creatinine	6.8.19	3.73 mg/dL
	22.8.19	4.00 mg/dL
	26.8.19	2.76 g/dL
	3.9.19	2.5 g/dL

S. Electrolytes	DATE	SODIUM	POTASSIUM
	6.8.19	126 mmol/L	3.85 mmol/L
	16.8.19	124 mmol/L	3.65 mmol/L
	22.8.19	132 mmol/L	3.60 mmol/L

X-Ray Chest (PAV)

Impression: Pulmonary Inflammatory Lesions in Right Upper and Left Mid Zones



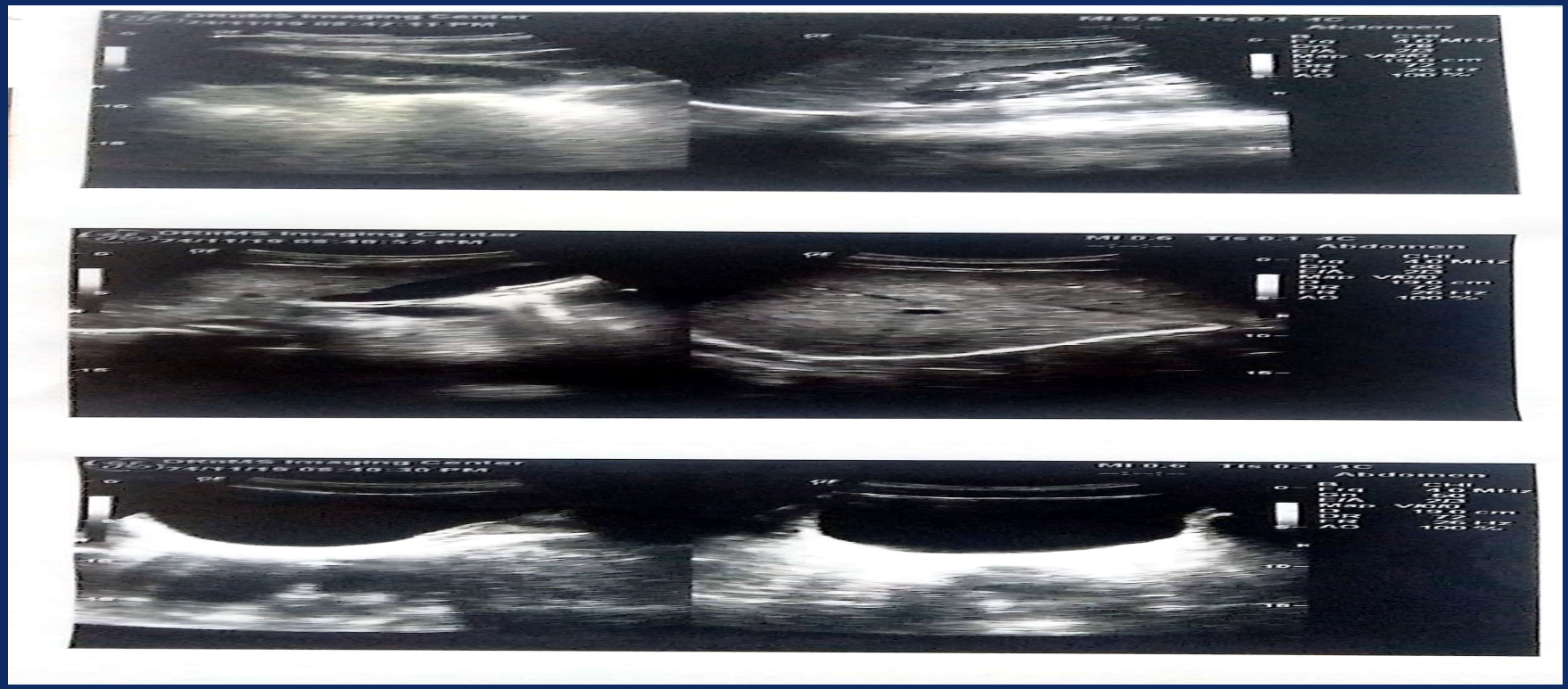
Mantoux Test: Negative

Sputum for MCS & AFB: Negative

Sputum for Gene Xpert: Negative

Serum ACE Levels: 36 mcl (8-53 mcl)

Ultrasonography: Whole Abdomen



Ultrasonography: Contd. (01.09.19)

Liver is normal in size with uniform echo texture without any evidence of focal or diffuse lesion. Intra-hepatic biliary channels appear normal. IVC and hepatic veins appear normal.

Gall bladder is well-filled, no calculi within its lumen, wall thickness is normal.

Biliary tree both intra and extra hepatic biliary trees are not dilated.

Pancreas appears normal in size and echo pattern.

Spleen appears normal in size and echo pattern.

Ultrasonography: Contd. (01.09.19)

Kidneys are normal in size, shape and position but increased echogenicity of both kidneys. Pelvicalyceal systems of both kidneys are not dilated with well defined cortex and medulla. No calculi seen within them.

Urinary bladder is normal and no intra-vesical lesion or calculi is seen.

Prostate is normal in size and echo texture according to age group.

There is no ascites. No pleural effusion.

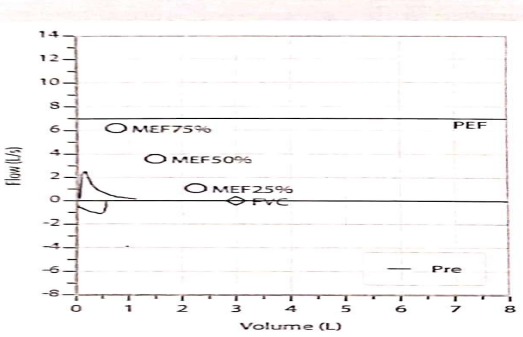
Comment: Acute Parenchymal Renal Disease.

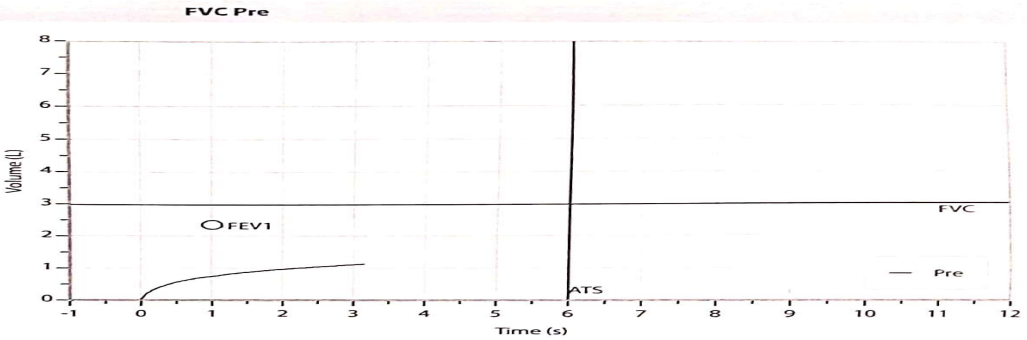
Osmolality and Urinary Electrolytes

Urinary Electrolyte	SODIUM	POTASSIUM
	19 mmol/L	25mmol/L

Urinary Osmolality	Plasma Osmolality
450 mOsmol/kg	280 mOsmol/kg

Spirometry: Obstructive Defect





Interpretation:

The subject has a FEV1/FVC% ratio of 65.6% which is within the normal limit and a FVC value of 1.15 L which is below the LLN. Test results indicate a ~~POSSIBLE RESTRICTION~~. obstructive airway disease (severe)

☒ Confirm Report **Signature:**

		PRE				
		Meas.	Normal Range	Pred	% Pred	z score
FVC	L	**1.15**	1.98 - 3.99	2.98	39	-3.00
FEV1	L	**0.76**	1.52 - 3.20	2.36	32	-3.15
FEV1/FVC%	%	**65.6**	63.9 - 87.5	75.7	87	-1.41
PEF	L/s	**2.52**	4.99 - 8.97	6.98	36	-3.69
FEF25-75%	L/s	**0.52**	1.26 - 4.69	2.97	17	-2.36
MEF25%	L/s	**0.30**	< 2.35	1.07	28	-0.99
MEF50%	L/s	**0.59**	1.41 - 5.75	3.58	16	-2.26
MEF75%	L/s	**1.38**	3.38 - 9.00	6.19	22	-2.81
FEV6	L	**0.00**	2.40 - 3.77	3.09	0	-7.42
FEV1/FEV6%	%	**0.0**	70.6 - 90.4	80.5	0	-13.43
FEV1/VCmax%	%	**65.6**	63.9 - 87.5	75.7	87	-1.41

System QC Pre: D Barely Passing Operator QC Pre:

Ig Electrophoresis: M Band

Serum Immunoglobulin

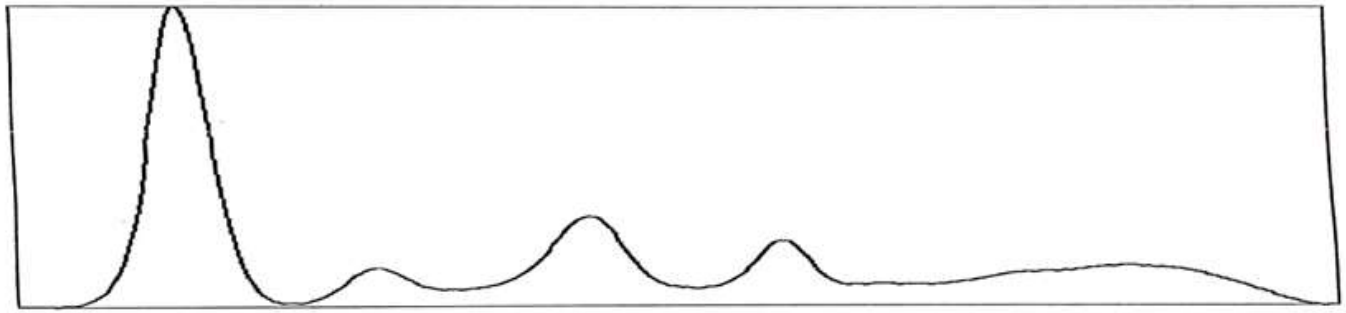
PATIENT NAME : [redacted] PATIENT ID :

ACCESSION NO : 0002SG015218 AGE : 53 Years SEX : Male DATE OF BIRTH :

DRAWN : 05/07/2019 00:00 RECEIVED : 06/07/2019 09:29 REPORTED : 06/07/2019 18:22

REFERRING DOCTOR : DR. S SURAL CLIENT PATIENT ID : EX19043477

Test Report Status Final	Results	Biological Reference Interval	Units



Serum Protein Histogram, From Fully Automated Sebia Electrophoresis System

Comments

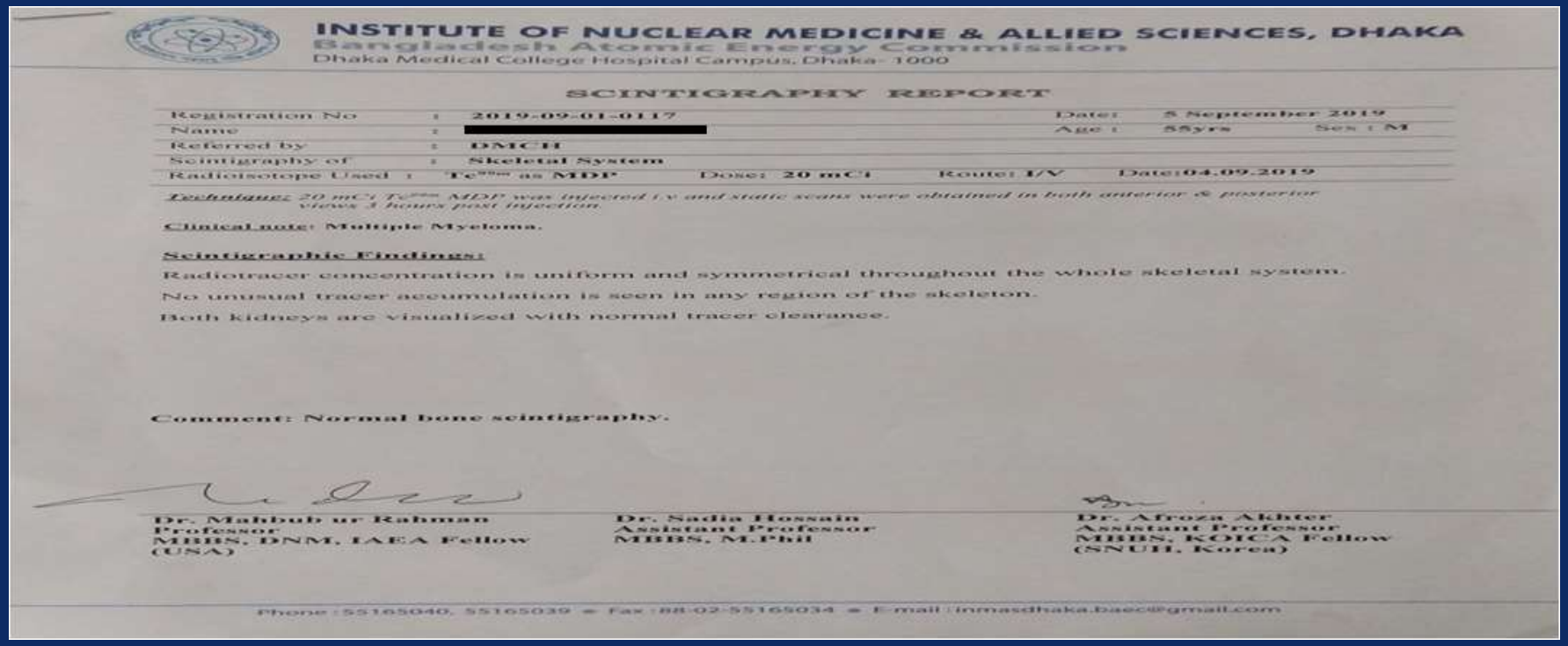
NOTE: VERY THIN DISCRETE BAND IS SEEN IN THE GAMMA GLOBULIN REGION. IMMUNOFIXATION ELECTROPHORESIS IS RECOMMENDED FOR CONFIRMATION IF CLINICALLY INDICATED.

Interpretation(s)

PROTEIN ELECTROPHORESIS, SERUM-SERUM PROTEIN ELECTROPHORESIS		SERUM IMMUNOFIXATION	RESULT
1. M band detected or Discrete band detected	One heavy chain (IgM/IgG/IgA) with one light chain (K/L).	Suggestive of Monoclonal Gammopathy	
2. Thin discrete/Very thin discrete band	One heavy chain (IgM/IgG/IgA) band with one light chain (K/L)	Suspicious/poorly defined band. The level or spike is too low to quantify or to call it a definite M band. Such suspected cases of unknown significance (MGUS, Smouldering myelomas) requires follow ups in 3-6 months. This pattern may also be a case of myeloma on therapy	
3. M band/Discrete/ Thin discrete band	Either K/L chain only, no heavy chain band	1. Light chain disease, suggest urine immunofixation. 2. IgD or IgE disease 3. Multiple bands in kappa/lambda region indicates	

Bence-Jones Protein: Absent in Urine

Bone Scintigraphy



INSTITUTE OF NUCLEAR MEDICINE & ALLIED SCIENCES, DHAKA
Bangladesh Atomic Energy Commission
Dhaka Medical College Hospital Campus, Dhaka- 1000

SCINTIGRAPHY REPORT

Registration No	: 2019-09-01-0117	Date:	5 September 2019	
Name	: [redacted]	Age :	85yrs	Sex : M
Referred by	: DMCH			
Scintigraphy of	: Skeletal System			
Radioisotope Used	: Tc^{99m} as MDP	Dose: 20 mCi	Route: I/V	Date: 04.09.2019

Technique: 20 mCi Tc^{99m} MDP was injected i.v and static scans were obtained in both anterior & posterior views 3 hours post injection.

Clinical note: Multiple Myeloma.

Scintigraphic Findings:

Radiotracer concentration is uniform and symmetrical throughout the whole skeletal system.

No unusual tracer accumulation is seen in any region of the skeleton.

Both kidneys are visualized with normal tracer clearance.

Comment: Normal bone scintigraphy.

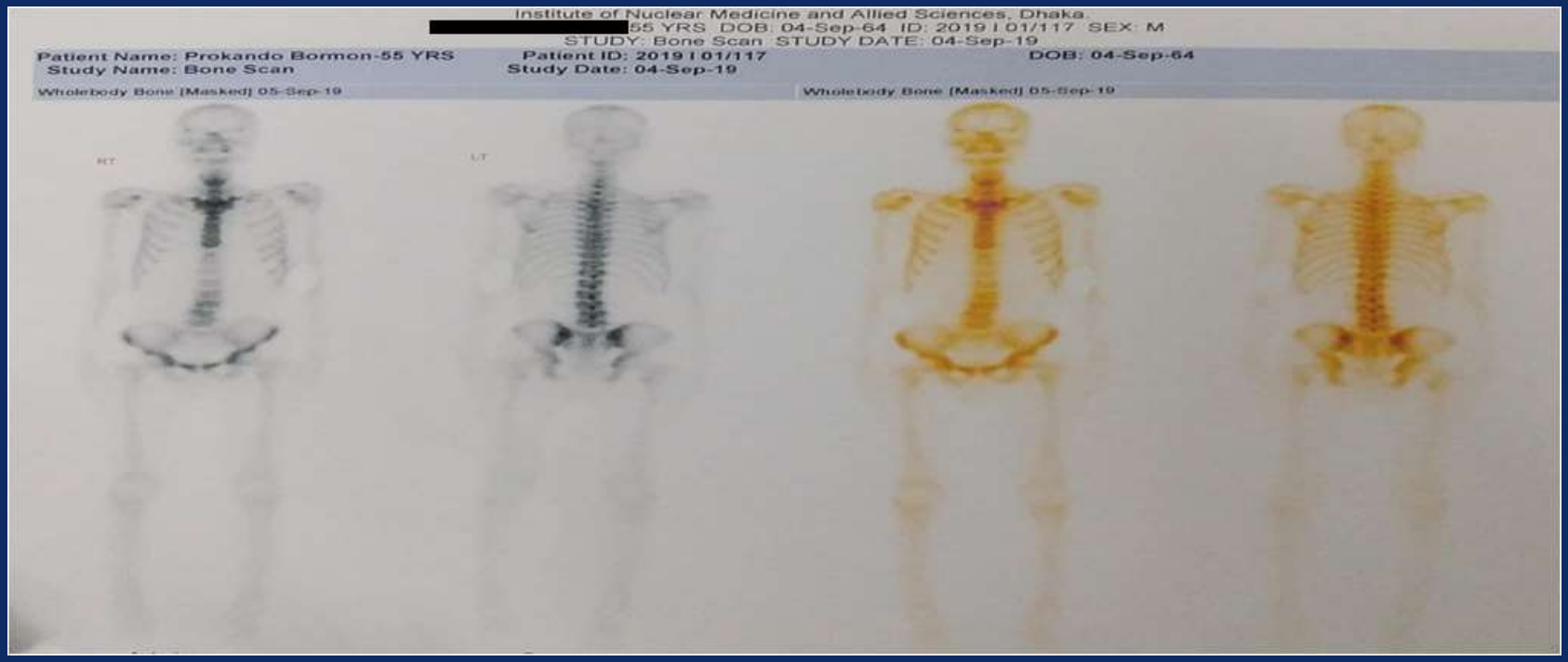
Dr. Mahbub ur Rahman
Professor
MBBS, DNM, IAEA Fellow
(USA)

Dr. Sadia Hossain
Assistant Professor
MBBS, M.Phil

Dr. Afroza Akhter
Assistant Professor
MBBS, KOICA Fellow
(SNUH, Korea)

Phone : 55165040, 55165039 ■ Fax : 88-02-55165034 ■ E-mail : inmasdhaka.baec@gmail.com

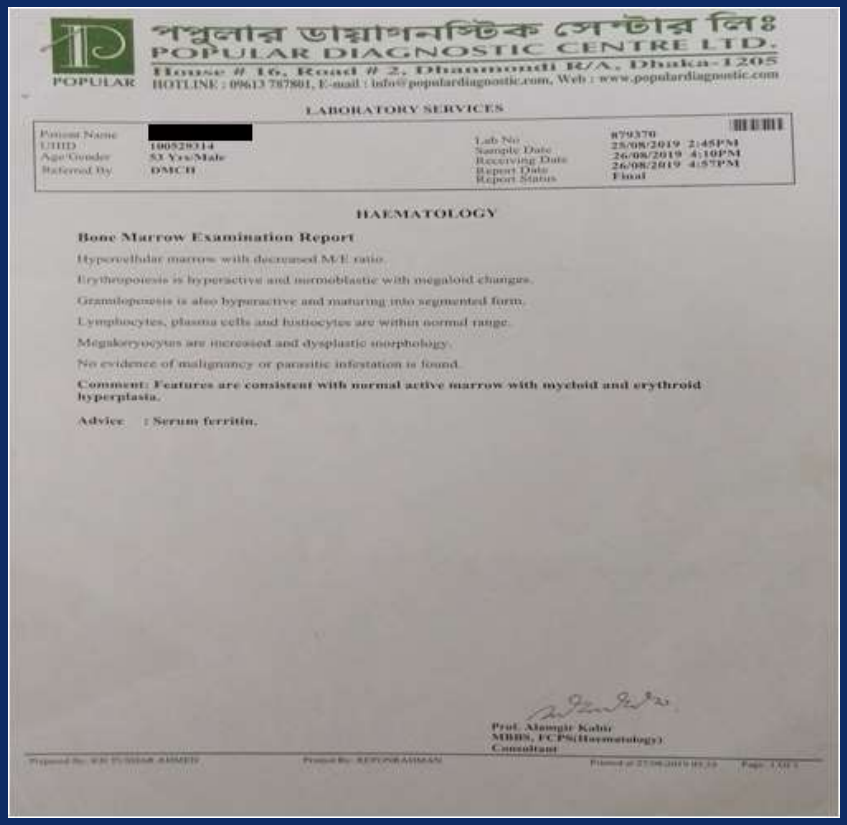
Bone Scintigraphy: Normal



Bone Marrow Examination

Hypercellular marrow with decreased myeloid:erythroid ratio.

Comment: features are consistent with normal active marrow with myeloid and erythroid hyperplasia.



পপুলার ডায়াগনস্টিক সেন্টার লিঃ
POPULAR DIAGNOSTIC CENTRE LTD.
House # 16, Road # 2, Dhanmondi R/A, Dhaka-1205
HOTLINE : 09613 787801, E-mail : info@popculardiagnostic.com, Web : www.populardiagnostic.com

LABORATORY SERVICES

Patient Name	[redacted]	Lab No	879370
UHID	1005230314	Sample Date	25/08/2019 2:45PM
Age/Gender	53 Yrs/Male	Receiving Date	26/08/2019 4:10PM
Referred By	DMCH	Report Date	26/08/2019 4:57PM
		Report Status	Final

HAEMATOLOGY

Bone Marrow Examination Report

Hypercellular marrow with decreased M/E ratio.
Erythropoiesis is hyperactive and normoblastic with megaloid changes.
Granulopoiesis is also hyperactive and maturing into segmented form.
Lymphocytes, plasma cells and histiocytes are within normal range.
Megakaryocytes are increased and dysplastic morphology.
No evidence of malignancy or parasitic infestation is found.

Comment: Features are consistent with normal active marrow with mycloid and erythroid hyperplasia.

Advice : Serum ferritin.

Prof. Alamgir Kabir
MBBS, FCPS(Haematology)
Consultant

Hematological Investigations: Normal

Serum. Iron – 110 mcg/dl (55-160 mcg/dl)

Serum Ferritin – 180 ng/ml (12-300 ng/ml)

TIBC – 370mcg/dl (240-450 mcg/dl)

Vitamin B12 – 240 pg/ml (200-300 pg/ml)

Serum Folate – 16 ng/ml (2-20 ng/ml)

Reticulocyte Count – 1.2 % (0.5-1.5%)

Investigations to Exclude Malignancy

Serum Lactate Dehydrogenase – 207 U/L (135- 225 U/L)

Prostate Specific Antigen – 2.1 ng/ml (Upto 4 ng/ml)

Carcinoembryonic Antigen – 3.3 ng/ml (Upto 10 ng/ml)

Cancer Antigen 19-9 – 15.3 U/ml (Upto 37 U/ml)

Calcium Panel

Serum Calcium: (8.5 – 10.5 mg/dL)

6/8/19 - 11.89 mg/dL

16/8/19 - 10.63 mg/dL

22/8/19 - 10.63 mg/dL

03/9/19 - 9.0 mg/dL

Serum Albumin: 3.6 mg/dl (3.5-5.5 mg/dL)

Serum Inorganic Phosphate:
2.5 mg/dL (2.5 – 4.5 mg/dL)

Serum 25-OH vitamin D :
118.50 ng/mL (20-50 ng/mL)

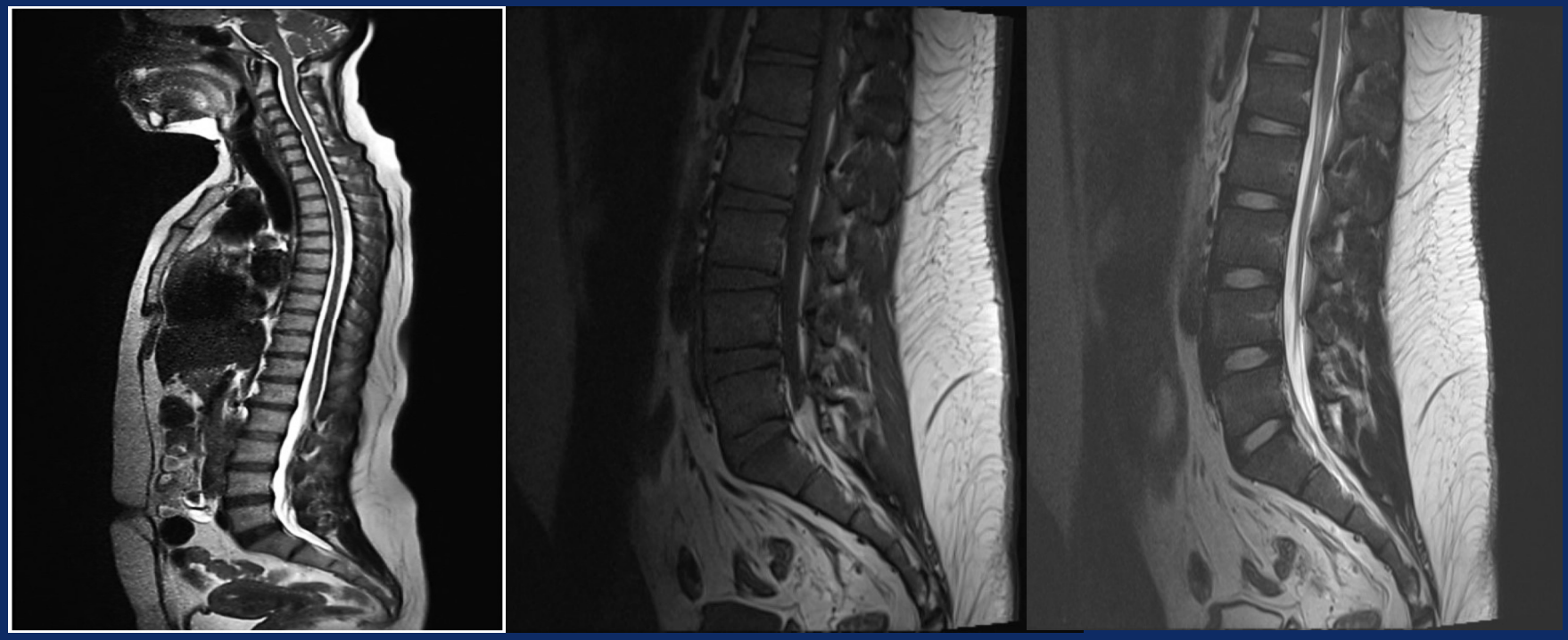
Alkaline Phosphatase:
140 IU/L (44-147 IU/L)

Serum Parathyroid Hormone:
10.50 pg/mL (10-65 pg/mL)

X-Ray Skull (B/V): Normal

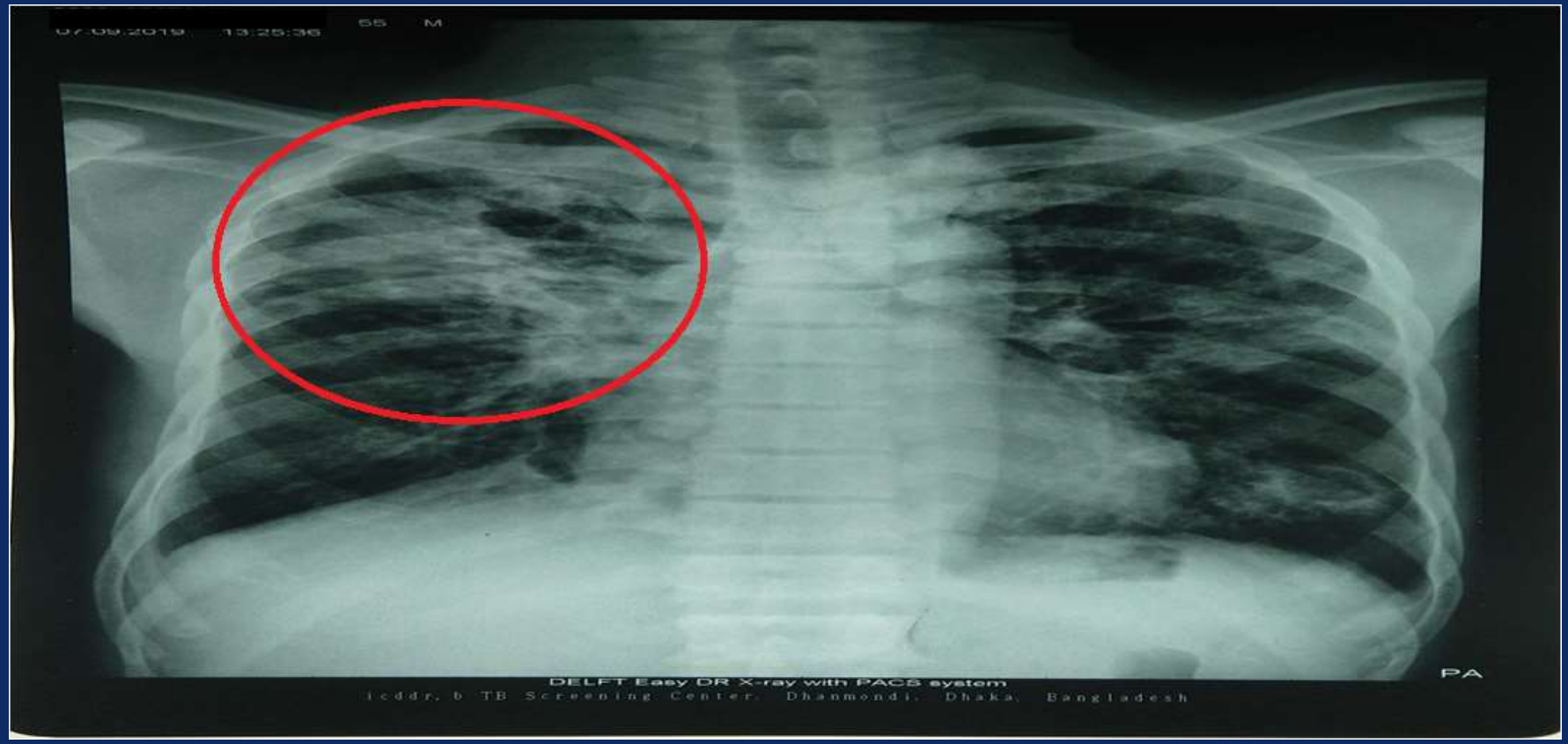
X-Ray Abdomen: AP View: Normal

MRI Spine: Normal

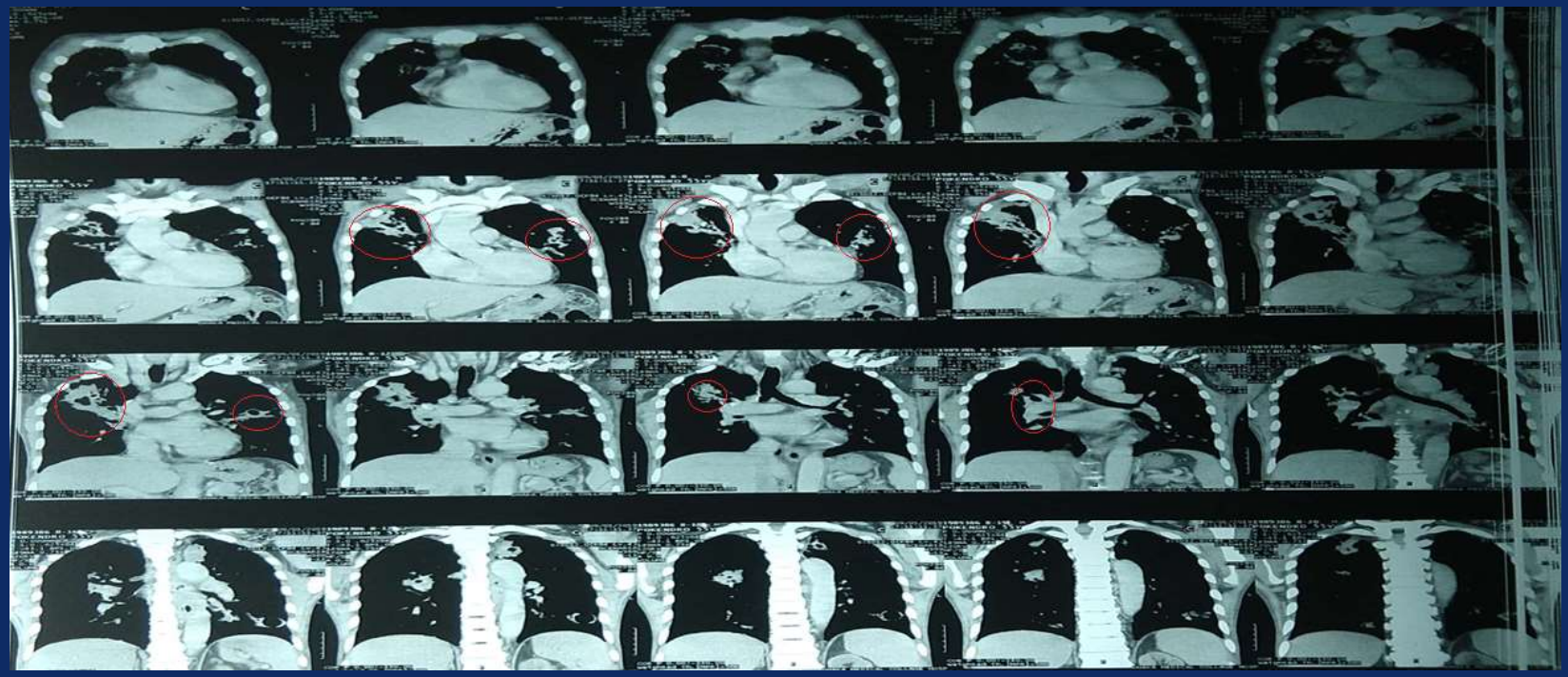


What Should Be Done Next?

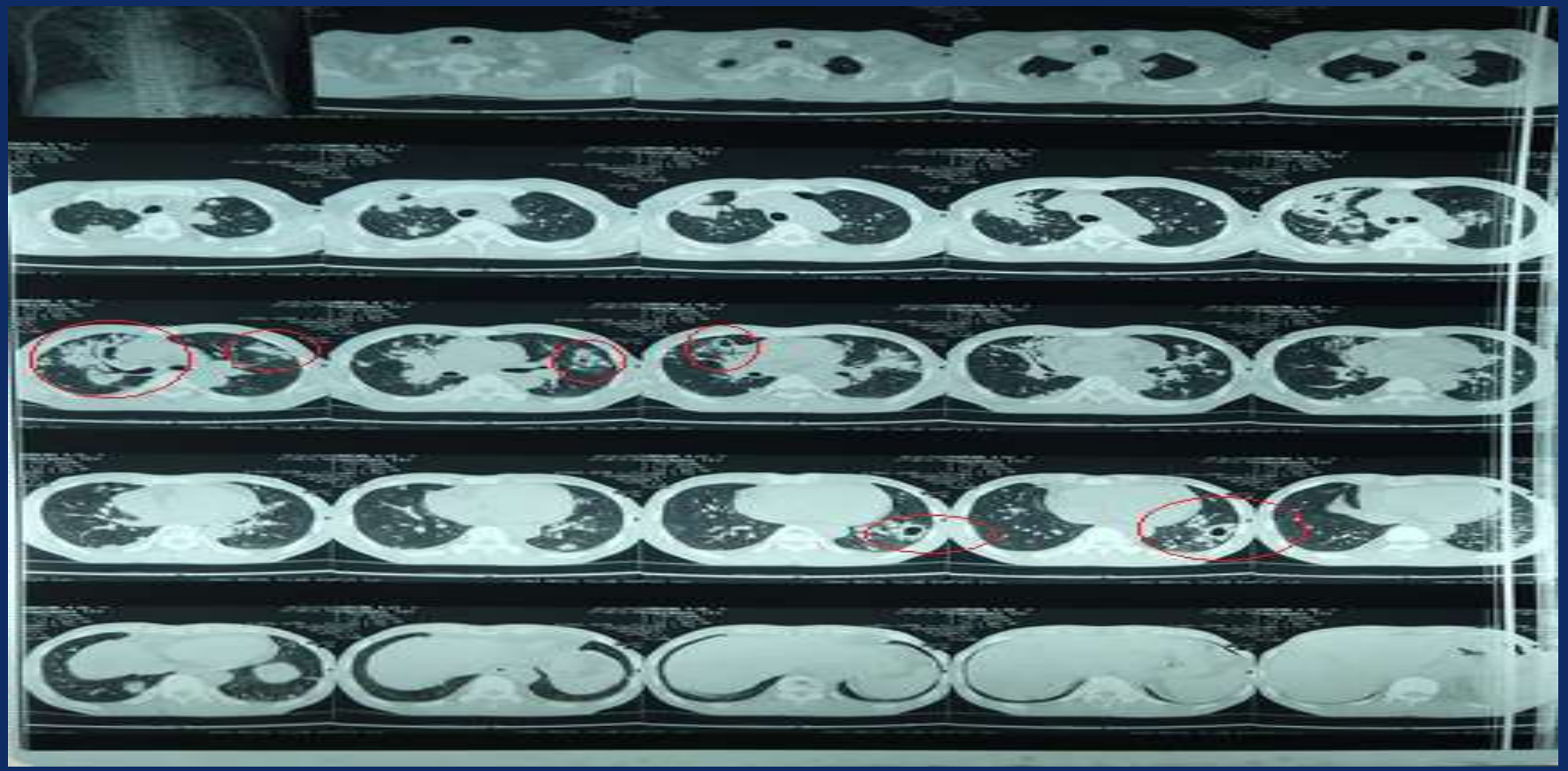
Repeat CXR: Patchy Opacification



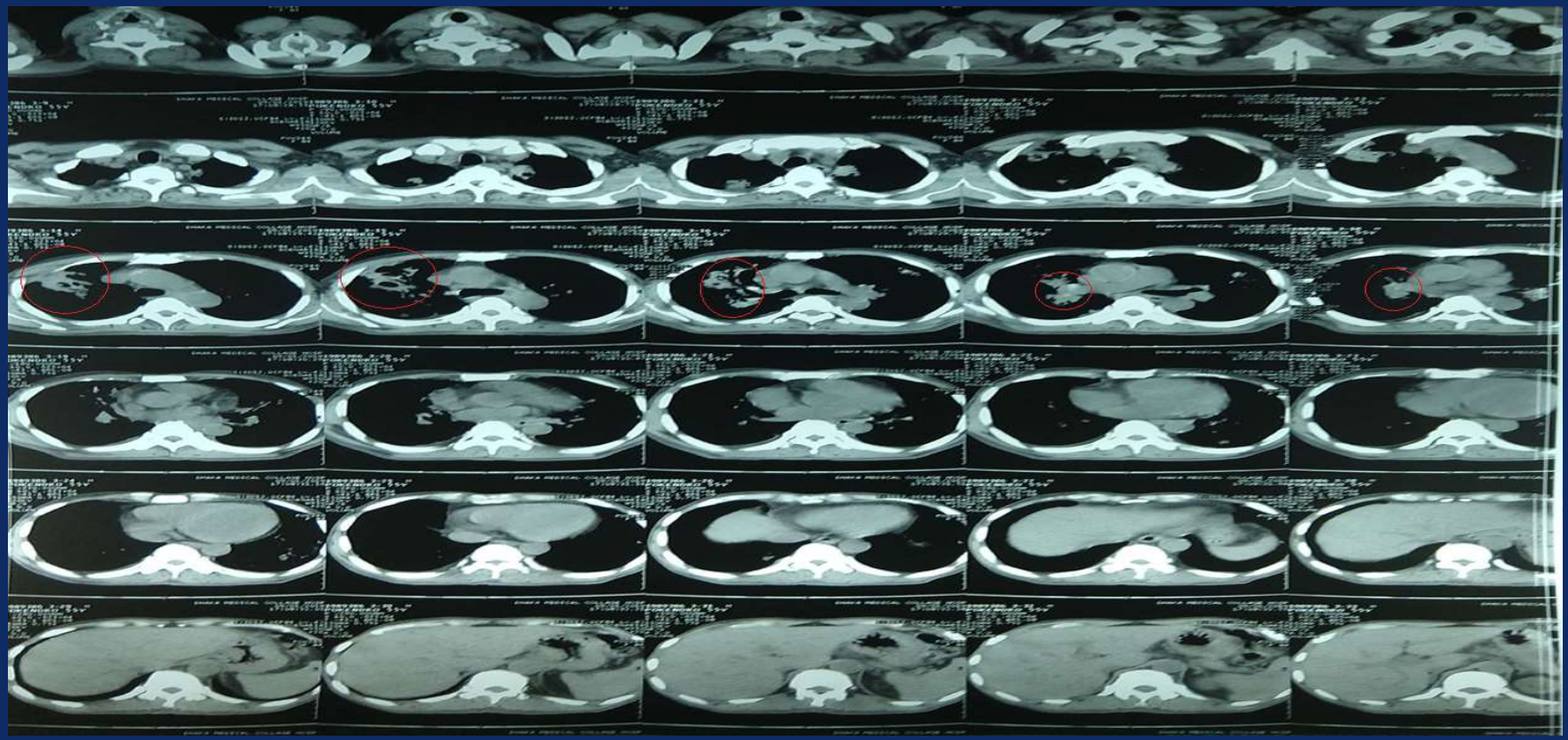
CT Scan Chest (Coronal View)



CT Scan Chest (Axial – Lung Window)



CT Chest (Axial – Mediastinal Window)



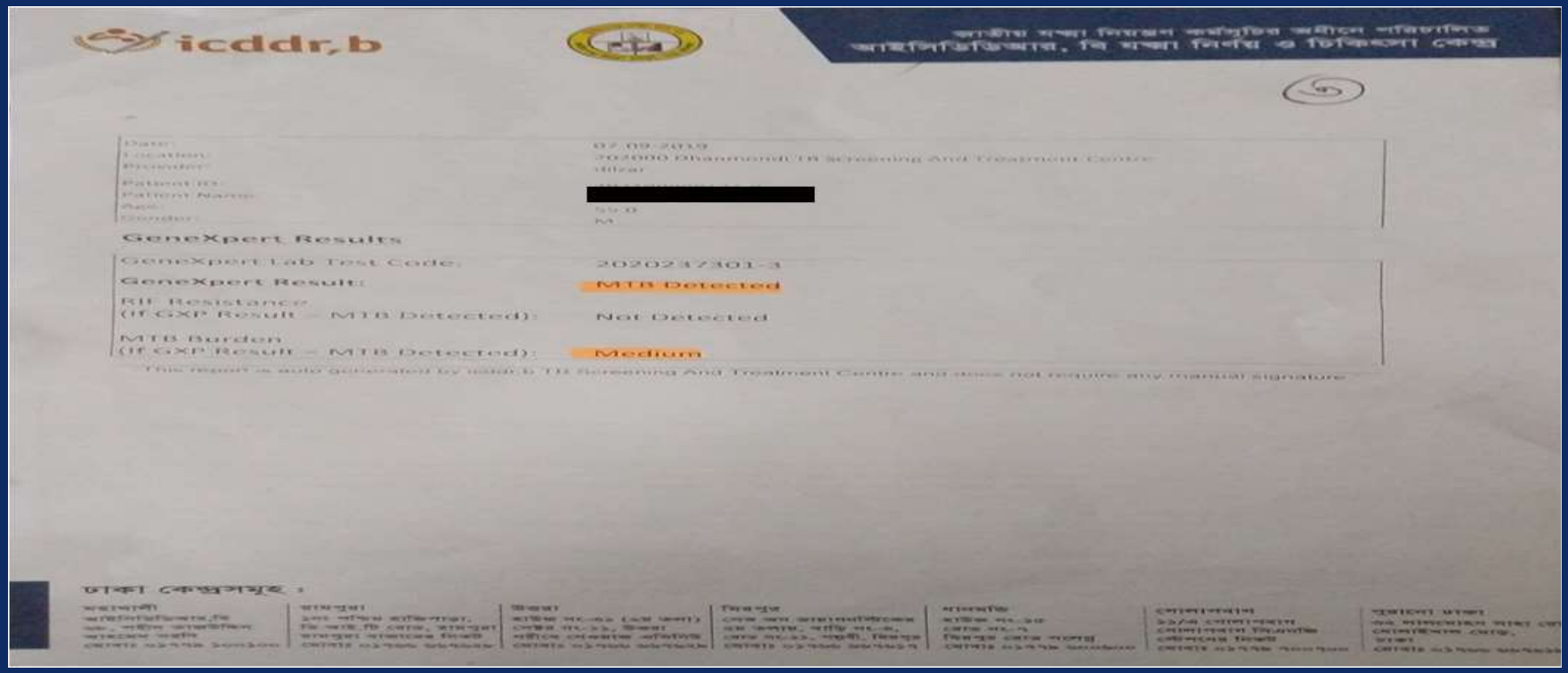
CT Scan of Chest: Comments

1. Thin space densification with air bronchogram is noted in both lung fields predominantly in the right upper & middle lobes and left upper lobe.

2. Thick walled cavitary lesion is also noted in left lateral basal segment

Impression: Multifocal consodilation in both lung field with cavitary lesion in left lateral basal segment (suggestive sequele of pulmonary TB)

Repeated Sputum for Gene Xpert



icddr,b

Date: 07-09-2019
Location: 2020000 Dhanmondi TB Screening And Treatment Centre
Provider: Nilzar
Patient ID:
Patient Name: [redacted]
Age: 59 Y
Gender: M

GeneXpert Results

GeneXpert Lab Test Code:	20202417301-3
GeneXpert Result:	MTB Detected
RIF Resistance (If GXP Result – MTB Detected):	Not Detected
MTB Burden (If GXP Result – MTB Detected):	Medium

This report is auto generated by icddr,b TB Screening And Treatment Centre and does not require any manual signature

Confirmatory Diagnosis:

PULMONARY TUBERCULOSIS WITH HYPERCALCEMIA WITH CHRONIC OBSTRUCTIVE PULMONARY DISEASE WITH ACUTE KIDNEY INJURY

On Going Treatment:

Advise: Restrict Sun Exposure, Calcium and Vitamin D Supplementations

Adequate Hydration

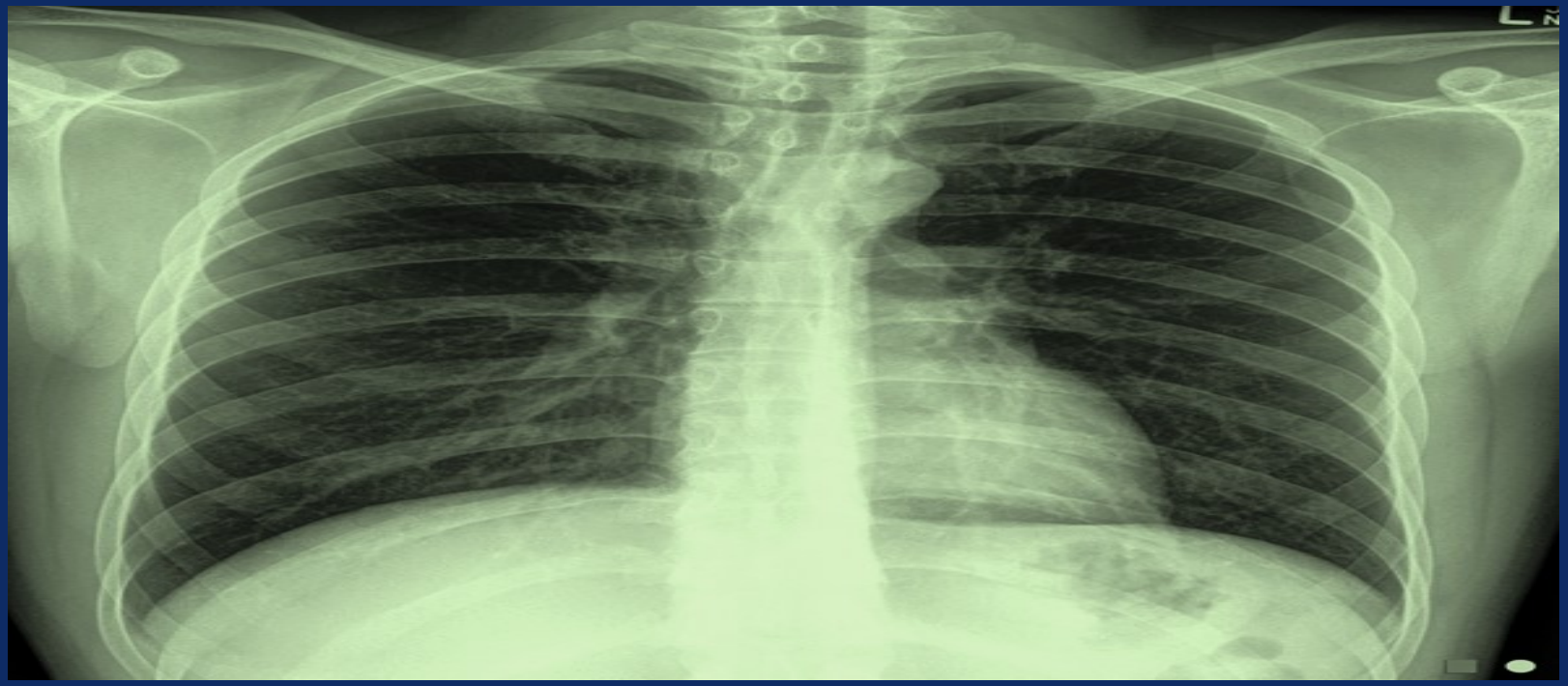
Antitubercular Fixed Four Dose Combination

Pyridoxine

Sodium Chloride

Supportive Medications

Follow Up - Two Months: Normal CXR



Follow Up Cont. (08/11/2019)

Complete Blood Count	**05/11/2019**
Hb	14.1g/dl
ESR	20mm in 1st hour
Total count RBC WBC Platelet	 4.01*10^6/uL 9.30*10^3/uL 198*10^3/uL
Differential count Neutrophil Lymphocyte Monocyte	 71% 22.4% 6.00%
Absolute indices MCV MCH MCHC	 92.4fL 30.2pg 32.7g/dL

Thank You

Hypercalcaemia in TB: Case Reports

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Severe Hypercalcemia as the Presenting Sign of Tuberculosis

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Case report

Asymptomatic Hypercalcemia due to Cavitary Pulmonary Tuberculosis: A Case Report

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Case Reports Contd.

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ORIGINAL RESEARCH 1 MARCH 1979

Hypercalcemia in Active Pulmonary Tuberculosis

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Short Communication

Severe Hypercalcemia in Tuberculosis

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Hypercalcaemia due to Tuberculosis

Hypercalcemia is known to occur in granulomatous diseases.

Tuberculosis, sarcoidosis, fungal granulomas, and lymphomas are other conditions that are associated with disorders of calcium metabolism.

Hypercalcemia, although occuring infrequently, is a well recognized complication of active tuberculosis. Severe hypercalcemia has been **seldom** reported in literature.

Mechanism

Evidence that extra-renal 1-alpha hydroxylation of 25-hydroxy cholcalciferol to 1,25 dihydroxycholecalciferol brought about by macrophages plays an important role in causing hypercalcemia in tuberculous patients. This enzyme activity is regulated by gamma interferons or endotoxin.

This activity usually has local effects to enhance all cell-mediated immunity to TB. However if produced in a large quantity, spillage may occur into circulation resulting in hypercalcemia.

Management

Symptomatic hypercalcemia is managed by aggressive hydration and occasionally short courses of systemic corticosteroid to bring down the serum calcium level as was done in our patient.

In conclusion, we suggest that TB should be excluded in any febrile patient with hypercalcemia especially in countries where tuberculosis is endemic.

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Thank You