WELCOME TO CME PROGRAMME

RESPIRATORY MEDICINE

KUSHTIA MEDICAL COLLEGE



A Middle Aged Woman with Progressive Shortness of Breath

Dr. Md Abdullah Al Mamun
Assistant Registrar
Department Of Medicine
Kushtia Medical College Hospital

Particulars of the patient

- **Name : Mrs. Hira**
- **Age : 49 years**
- **Occupation: Housewife**
- **Address: Kushtia**
- **Date of admission: 20/09/2025**
- **Date of examination: 20/09/2025**

Chief Complaints

- **Cough for 6 months**
- **Shortness of breath for 4 months**

HISTORY OF PRESENT ILLNESS

According to the statement of the patient, she was reasonably well 06 months back then she developed cough which is non productive, distressing and occurs throughout the day. Cough is not triggered by cold ,dust or fume exposure & there is no diurnal or seasonal variation .There is no history of fever, hemoptysis or weight loss.

HISTORY OF PRESENT ILLNESS

Patient also complained of progressive shortness of breath for the last 4 months. Initially shortness of breath was mild and occurred during heavy exertion but she could perform her daily activities, but for the last one month the shortness of breath occurs even during mild exertion. She is now unable to perform her daily activities like dressing/undressing , going to toilet etc.

HISTORY OF PRESENT ILLNESS

Shortness of breath is not associated with wheeze, chest pain or tightness, palpitation. There is no history of breathlessness during lying down or waking up from sleep at night. There is no history of anorexia, swelling of legs, joint pain, skin rash & no contact with TB patient. Her bowel and bladder habits are normal. She is hypertensive for last 5 years and diabetic for 8 years and both are controlled by talking medications.

HISTORY OF PAST ILLNESS

No previous history of Asthma, Tuberculosis, Ischemic heart disease.

Family history

No family history of similar type of illness.

Personal history

Non smoker, non alcoholic.

There is no History of pet exposure.

Socioeconomic history

She belongs to middle class family, drinks arsenic free water & use sanitary latrine. She gives history of frequent use of biomass fuel for cooking.

Occupational history

Housewife.

Drug History

She is talking antihypertensive drug (telmisartan +amlodipin)

Antidiabetic drug (Metformin)

Menstrual History

She has a regular menstrual cycle with average flow.

Immunization History

She is immunized as per EPI schedule.

GENERAL EXAMINATION

- **Appearance: Ill looking**
- **Body built: Average**
- **Cooperation: Well-Cooperative**
- **Decubitus: on choice**
- **Anemia: Absent**
- **Jaundice: Absent**
- **Cyanosis: Absent**
- **Clubbing: Early Clubbing Present**
- **JVP: Not raised**

- Oedema: Absent
- Lymph Node: Not palpable
- Pulse:82/min, regular
- BP:140/90mmHg
- Temperature:98.4 F
- Thyroid Gland: Not enlarged
- Respiratory rate: 30 breath/min
- Sp02:90%(on sitting)
- Sp02:83%(during walking)significant desaturation

Fundoscopy: NAD

Systemic Examination
Respiratory System Examination

- **INSPECTION**
- **Shape :Normal**
- **Deformity : Absent**
- **Movement of the chest : restricted on both side**
- **There is no visible pulsation , visible engorged vein , no pigmentation.**

- **PALPATION**
- **Trachea : Central placed**
- **Apex beat : Left fifth ICS medial to mid clavicular line**
- **Chest expansibility:**

  Diminished on both side

Continued..

- **PERCUSSION**
- **Percussion note : Resonant**

- **AUSCULTATION**
- **Breath sound : Vesicular on both side**
- **Vocal resonance : Normal**
- **Added sound: Bibasal fine inspiratory crepitation unaltered by coughing.**

Precordium Examination

- **INSPECTION**
- **NO ABNORMALITIES.**

- **PALPATION**
- **Apex Beat :Left fifth ICS medial to mid clavicular line.**
- **PALPABLE P2 Absent.**
- **LEFT PARASTERNAL HEAVE Absent.**

- **AUSCULTATION**
- **First and second heart sounds are audible in all four areas and no Murmur.**

EXAMINATION OF OTHER SYSTEM REVEALS NO ABNORMALITIES

SALIENT FEATURES

Mrs.Hira ,49 years old, hypertensive, diabetic, non alcoholic, non smoker housewife hailing from kushtia admitted into KuMCH with the complaints of cough for 6 months which is non productive, distressing & occurs through out the day. Cough is not triggered by cold ,dust or fume exposure & there is no diurnal variation. Patient also complains of shortness of breath for last 04 months.

SALIENT FEATURE

Initially shortness of breath was mild and occurred during heavy exertion but she could perform her daily activities .But for the last one month the shortness of breath occur even during mild exertion and she is unable to perform her daily activities like dressing/undressing , going to toilet.

continued

Shortness of breath is not associated with wheeze, chest pain and palpitation. There is no history of orthopnea, paroxysmal nocturnal dyspnea, swelling of legs, joint pain, skin rash or any contact with TB patient. She is hypertensive for last 5 years and diabetic for 8 years and both are controlled by talking medication

continued

On examination, the patient is ill looking , early clubbing is present. Oxygen saturation is 90% on sitting but there is a significant desaturation during walking which is 83%. On respiratory system examination, Chest movement and expansibility is restricted on both side. On auscultation of chest, breath sound is vesicular but there is bibasal fine inspiratory crepitation which is unaltered by coughing.

Provisional diagnosis



Provisional diagnosis

Diffuse Parenchymal Lung Disease

&

Hypertension & Diabetes Mellitus

DIFFERENTIAL DIAGNOSIS

- **Bilateral Bronchiectasis**
- **Chronic Heart Failure**
- **Chronic Obstructive Pulmonary Disease (COPD)**
- **Lymphangitis carcinomatosa**

INVESTIGATION POFILE
CBC

TEST NAME	RESULT	REFARNACE RANGE
HB	12.20g/dl	12-15 gm/dl
TC OF WBC	9.5 K/mcl	4-10 k/mcl
DC OF NEUTROPHIL	79%	40-80%
DC OF LYMPHOCYTE	18%	20-40%
DC OF MONOCYTE	02%	2-10%
DC OF EUSINOPHIL	01%	1-6%
HCT	38.7%	34.8-45%
MCV	76.8fl	79-96fl
MCH	24.2pg	26-33pg
PLATELETS	270K/mcl	150-410 k/mcl
ESR	07	0-15

INVESTIGATION PROFILE

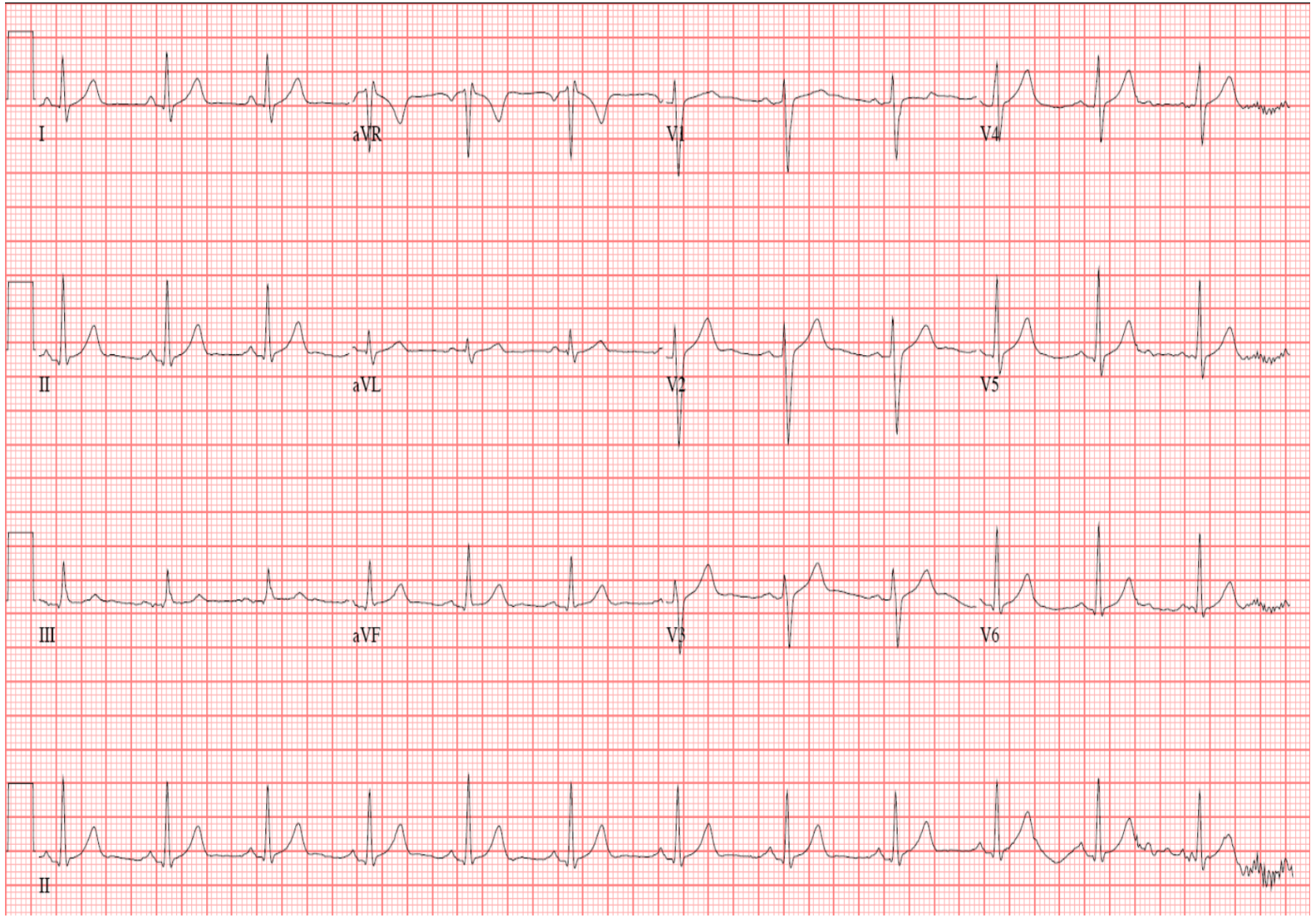
TEST NAME	RESULT	REFERENCE RANGE
S.CREATININE	O.9 mg/dl	0.6-1.2 mg/dl
RBS	6.40	3.67 -7.8 mmol/L

CHEST X-RAY CHEST P/A VIEW



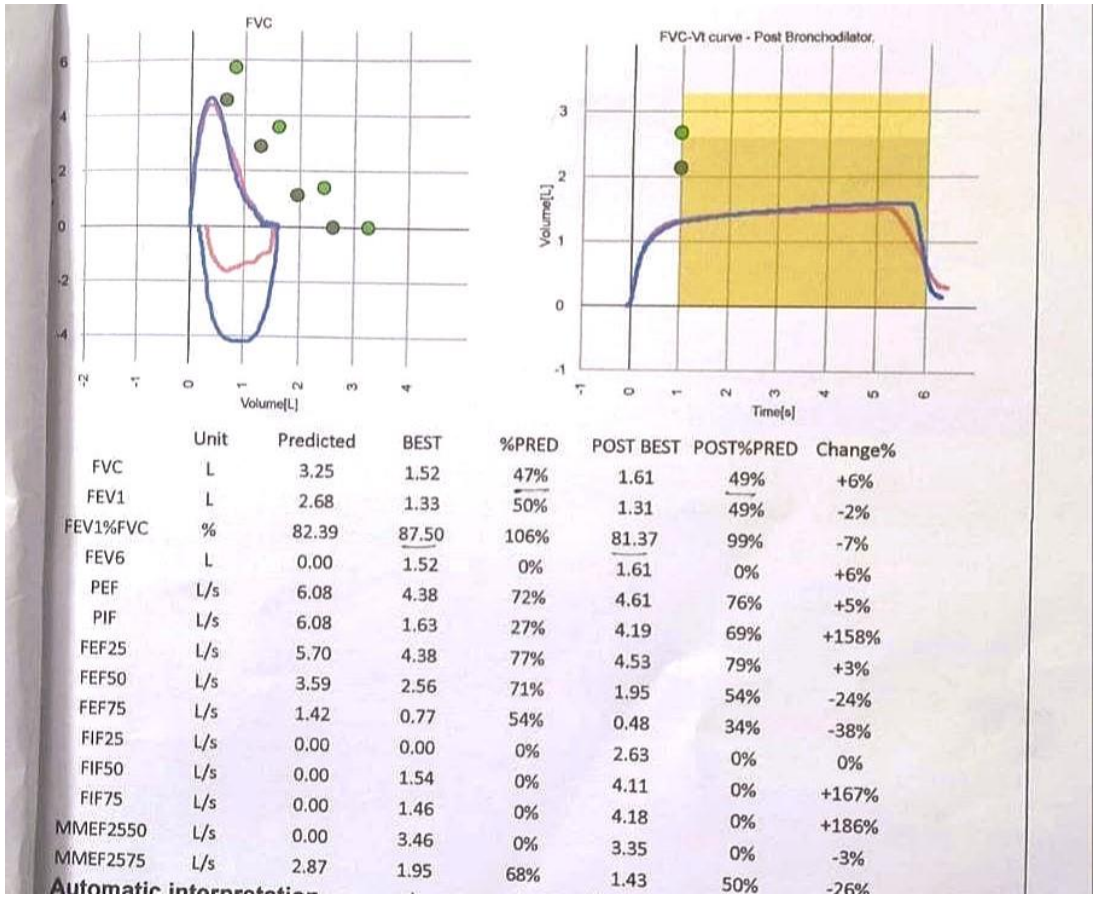
- NORMAL FINDINGS OF CHEST

ECG



- NORMAL FINDINGS OF ECG

SPIROMETRY



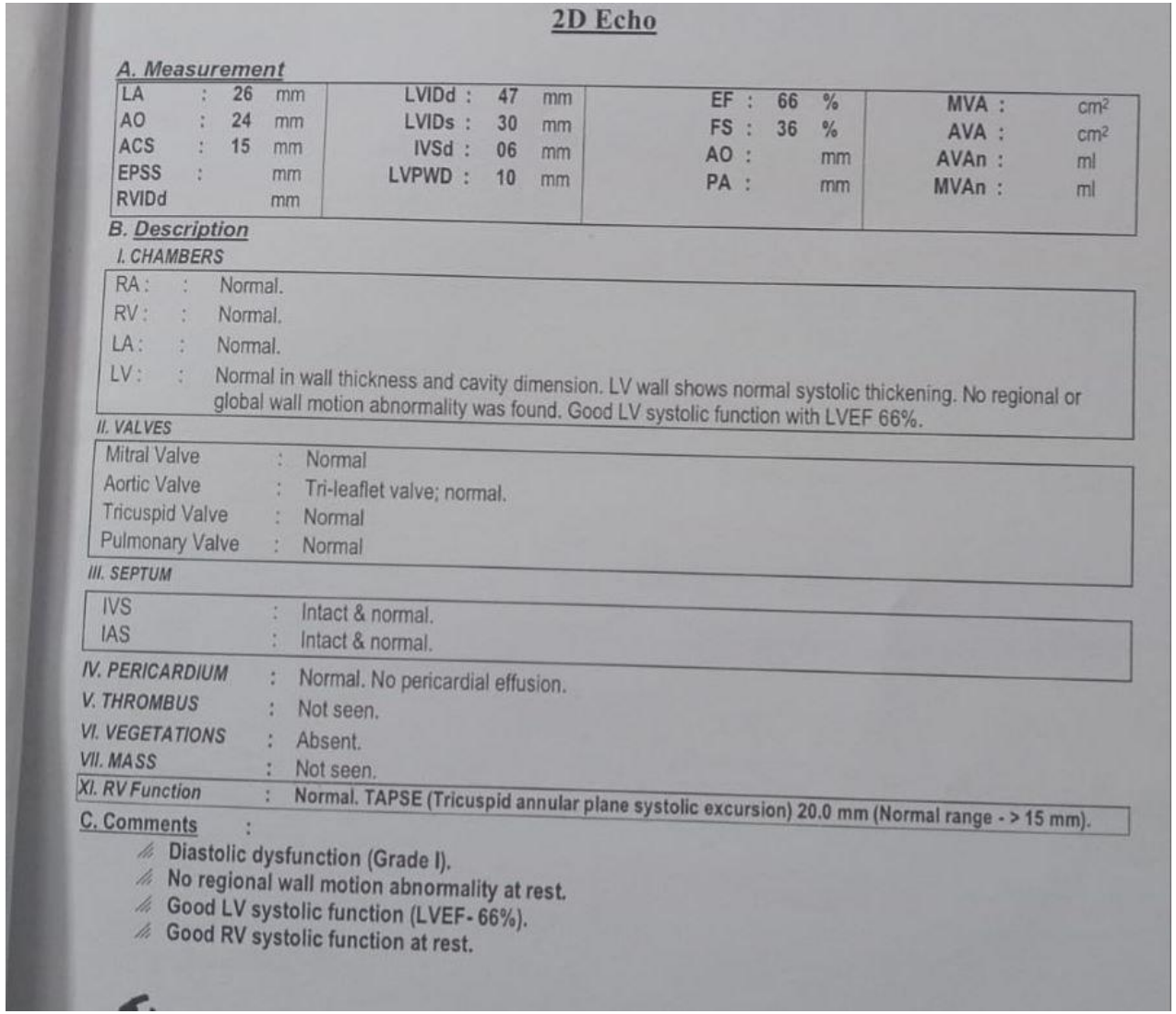
	Unit	Predicted	BEST	%PRED	POST BEST	POST%PRED	Change%
FVC	L	3.25	1.52	47%	1.61	49%	+6%
FEV1	L	2.68	1.33	50%	1.31	49%	-2%
FEV1%FVC	%	82.39	87.50	106%	81.37	99%	-7%
FEV6	L	0.00	1.52	0%	1.61	0%	+6%
PEF	L/s	6.08	4.38	72%	4.61	76%	+5%
PIF	L/s	6.08	1.63	27%	4.19	69%	+158%
FEF25	L/s	5.70	4.38	77%	4.53	79%	+3%
FEF50	L/s	3.59	2.56	71%	1.95	54%	-24%
FEF75	L/s	1.42	0.77	54%	0.48	34%	-38%
FIF25	L/s	0.00	0.00	0%	2.63	0%	0%
FIF50	L/s	0.00	1.54	0%	4.11	0%	+167%
FIF75	L/s	0.00	1.46	0%	4.18	0%	+186%
MMEF2550	L/s	0.00	3.46	0%	3.35	0%	-3%
MMEF2575	L/s	2.87	1.95	68%	1.43	50%	-26%

Automatic interpretation

- **FEV1/FVC Ratio-** 81%
- **Post Bronchodilatory Effect-**
  - ✓FVC-49%
- **Comment:**

Restrictive Ventilatory Defect(Moderate Restriction)

ECHO 2D



2D Echo

A. Measurement

LA	:	26	mm	LVIDd	:	47	mm	EF	: 66	%	MVA : cm²
AO	:	24	mm	LVIDs	:	30	mm	FS	: 36	%	AVA : cm²
ACS	:	15	mm	IVSd	:	06	mm	AO	:	mm	AVAn : ml
EPSS	:		mm	LVPWD	:	10	mm	PA	:	mm	MVAn : ml
RVIDd			mm								

B. Description

I. CHAMBERS

RA	:	Normal.
RV	:	Normal.
LA	:	Normal.
LV	:	Normal in wall thickness and cavity dimension. LV wall shows normal systolic thickening. No regional or global wall motion abnormality was found. Good LV systolic function with LVEF 66%.

II. VALVES

Mitral Valve	:	Normal
Aortic Valve	:	Tri-leaflet valve; normal.
Tricuspid Valve	:	Normal
Pulmonary Valve	:	Normal

III. SEPTUM

IVS	:	Intact & normal.
IAS	:	Intact & normal.

IV. PERICARDIUM : Normal. No pericardial effusion.

V. THROMBUS : Not seen.

VI. VEGETATIONS : Absent.

VII. MASS : Not seen.

XI. RV Function : **Normal. TAPSE (Tricuspid annular plane systolic excursion) 20.0 mm (Normal range - > 15 mm).**

C. Comments :

- **Diastolic dysfunction (Grade I).**
- **No regional wall motion abnormality at rest.**
- **Good LV systolic function (LVEF- 66%).**
- **Good RV systolic function at rest.**

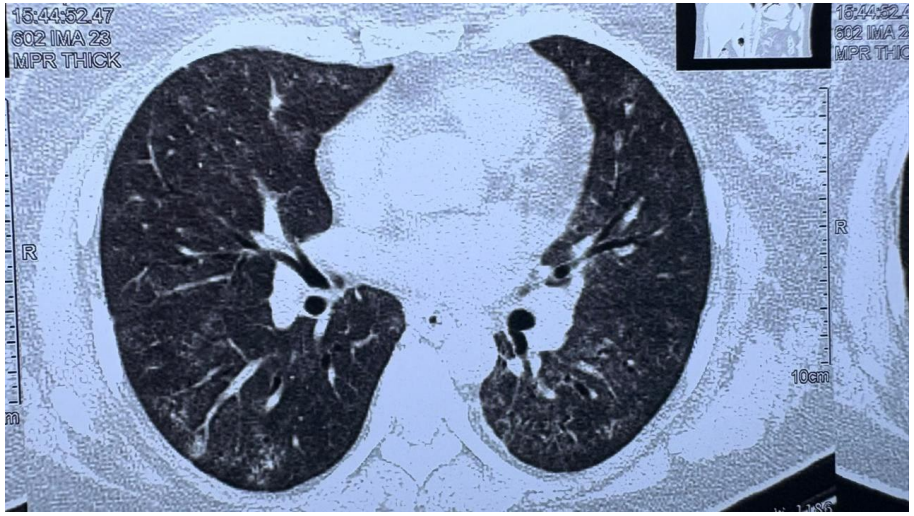
- NORMAL FINDINGS

Further investigations

TEST NAME	○RESULT	REFARANCE RANGE
RA TEST	NEGATIVE	
ANTI CCP AB	<0.50U/ML	<5.OOU/ML
ANA	NEGATIVE	
Serum calcium	8.6 mg/dl	8.5-10.5 mg/dl

SPIRAL CT SCAN OF CHEST (HRCT)









SPIRAL CT SCAN OF CHEST (HRCT)

Impression

- ✓**Bilateral, predominantly basal GGO sparing subpleural space with few fibrotic band and dilated brochi.**
- ✓**No features of honeycomb cyst.**

- ➢ **Suggestive of DPLD possibly NSIP variant.**

Investigations Not Done But should be Performed

- ✓**Complete Pulmonary Function Test including DLCO , 6 min Walk Test, Bronchoscopy with BAL fluid study.**
- ✓**Confirmatory Diagnosis is done by Lung Biopsy.**

WORKING DIAGNOSIS

Diffuse Parenchymal Lung Disease (Non Specific Interstitial Pneumonia)

&

Hypertension And Diabetes Mellitus

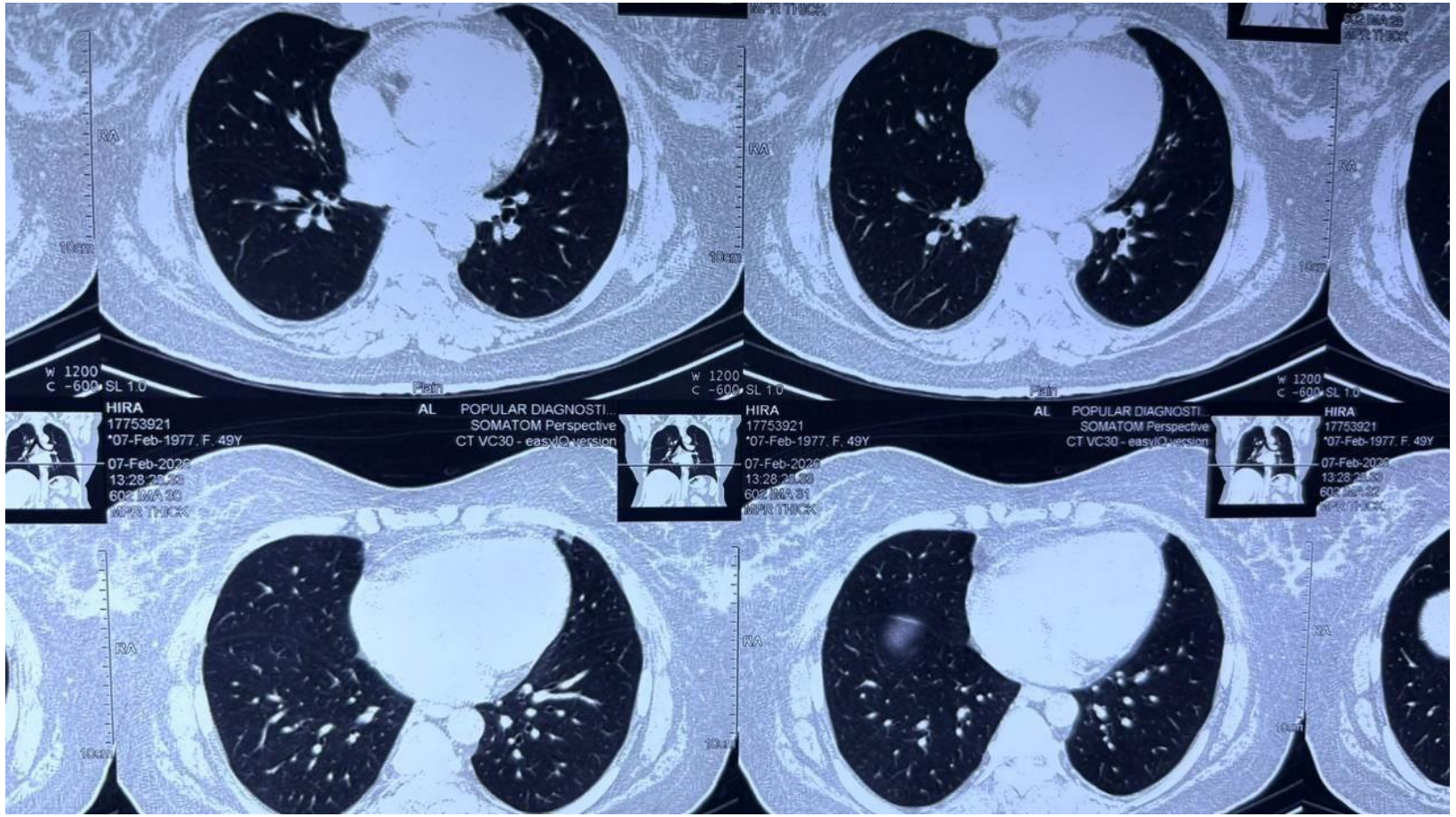
TREATMENT PLAN

- **Oral Prednisolone 0.5mg/kg daily.**
- **Prophylaxis of P. Jirovecii Pneumonia – Co-Trimoxazole 3 Times weekly.**
- **Calcium And Vitamin D Supplementation for bone protection.**
- **PPI.**
- **Anti Hypertensive & Anti Diabetic.**
- **Influenza Vaccination Yearly.**

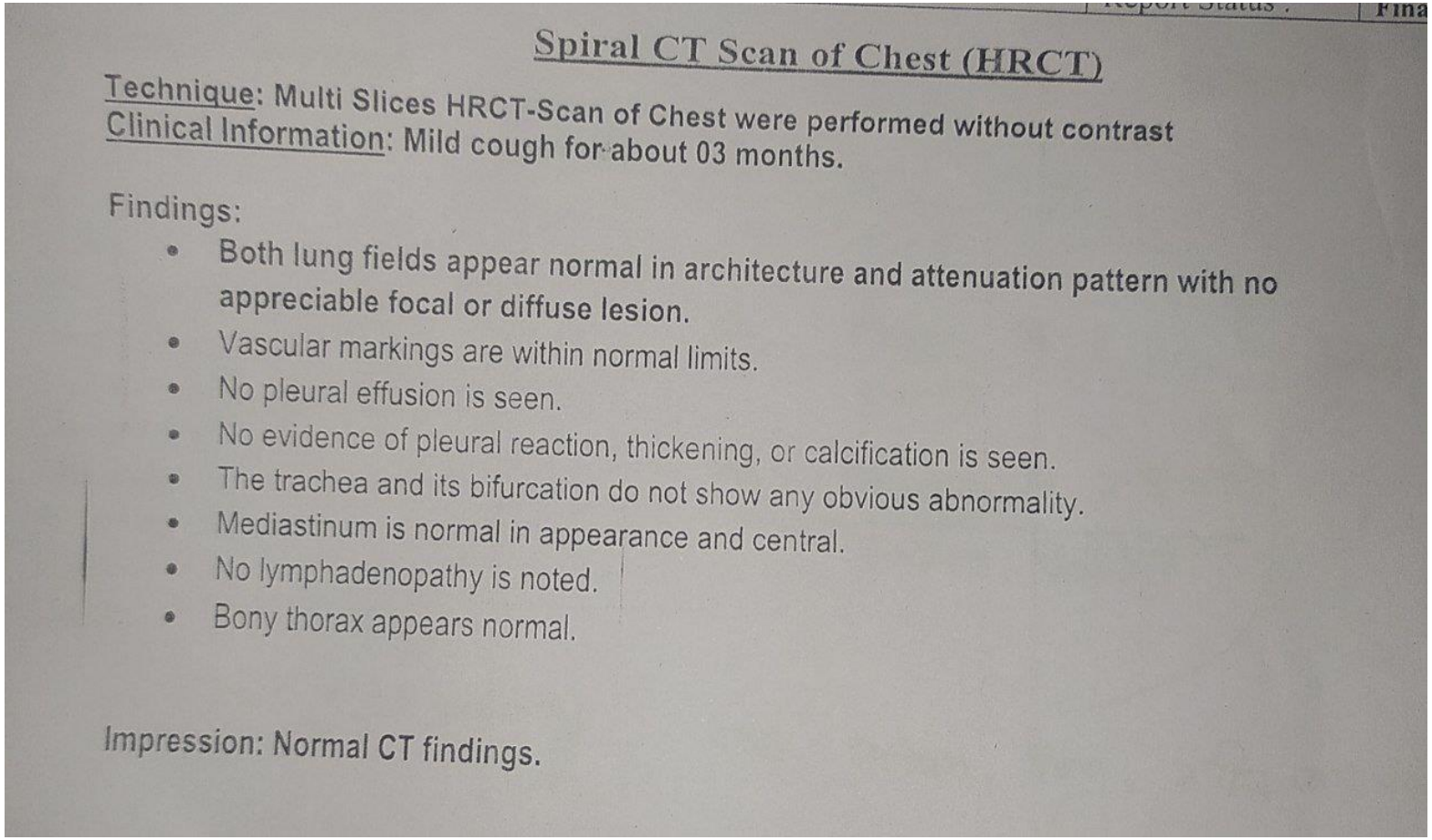
Follow up of the patient after 3 months

Symptoms significantly improved. Cough and breathlessness resolved. SPo2 is now 97% in sitting and during walking. Patient can now perform her daily activities.

Spiral CT Scan Of Chest (HRCT) After Treatment



Spiral CT Scan Of Chest (HRCT) After Completion Of Treatment



Spiral CT Scan of Chest (HRCT)

Technique: Multi Slices HRCT-Scan of Chest were performed without contrast
Clinical Information: Mild cough for about 03 months.

Findings:

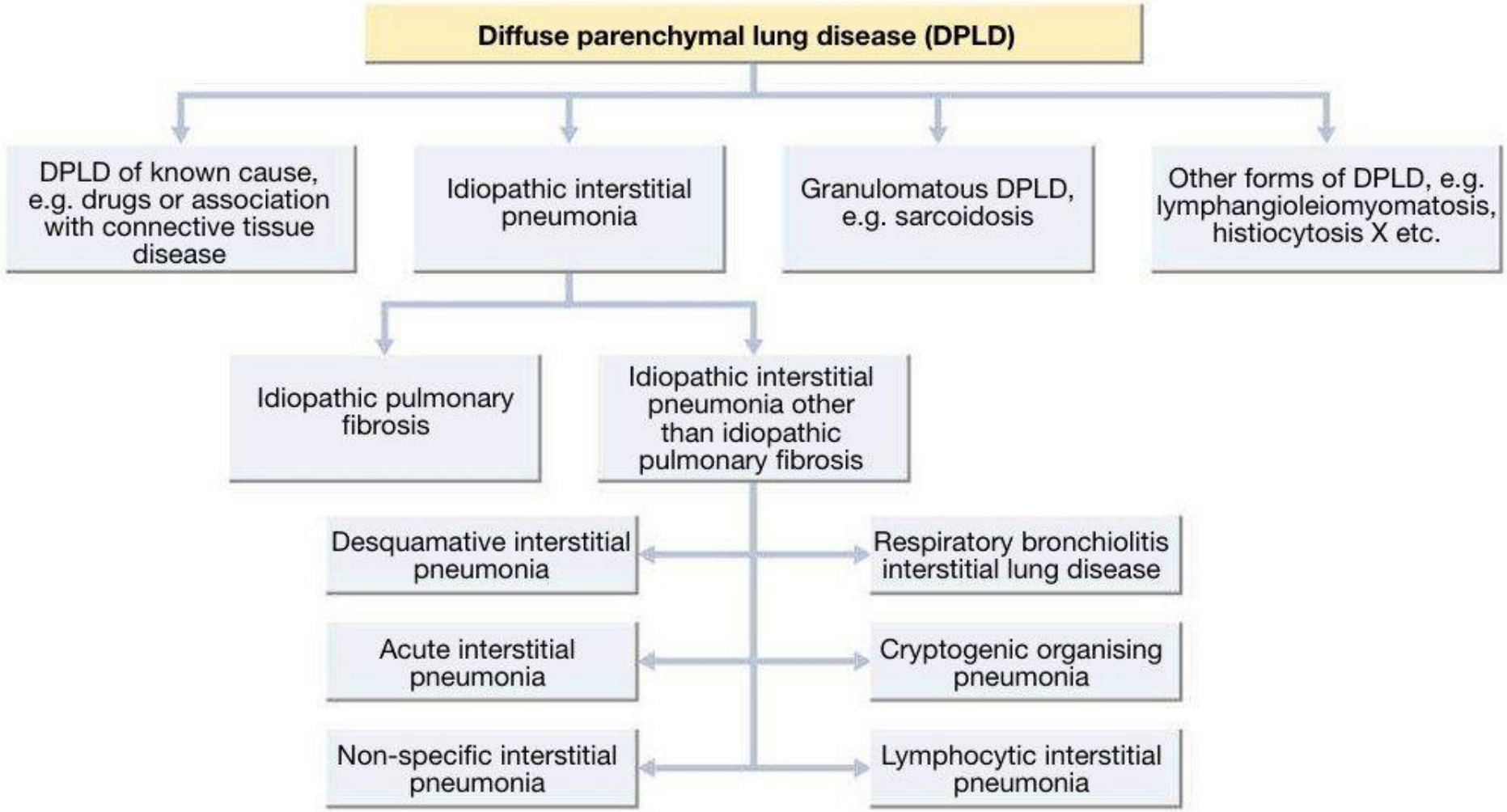
- Both lung fields appear normal in architecture and attenuation pattern with no appreciable focal or diffuse lesion.
- Vascular markings are within normal limits.
- No pleural effusion is seen.
- No evidence of pleural reaction, thickening, or calcification is seen.
- The trachea and its bifurcation do not show any obvious abnormality.
- Mediastinum is normal in appearance and central.
- No lymphadenopathy is noted.
- Bony thorax appears normal.

Impression: Normal CT findings.

DPLD

The Diffuse Parenchymal Lung Diseases (DPLDs) are a heterogeneous group of conditions affecting the pulmonary parenchyma (interstitial) and/or alveolar lumen, which are frequently considered collectively as they share a sufficient number of clinical, physiological and radiographic similarities.

Classification of DPLD

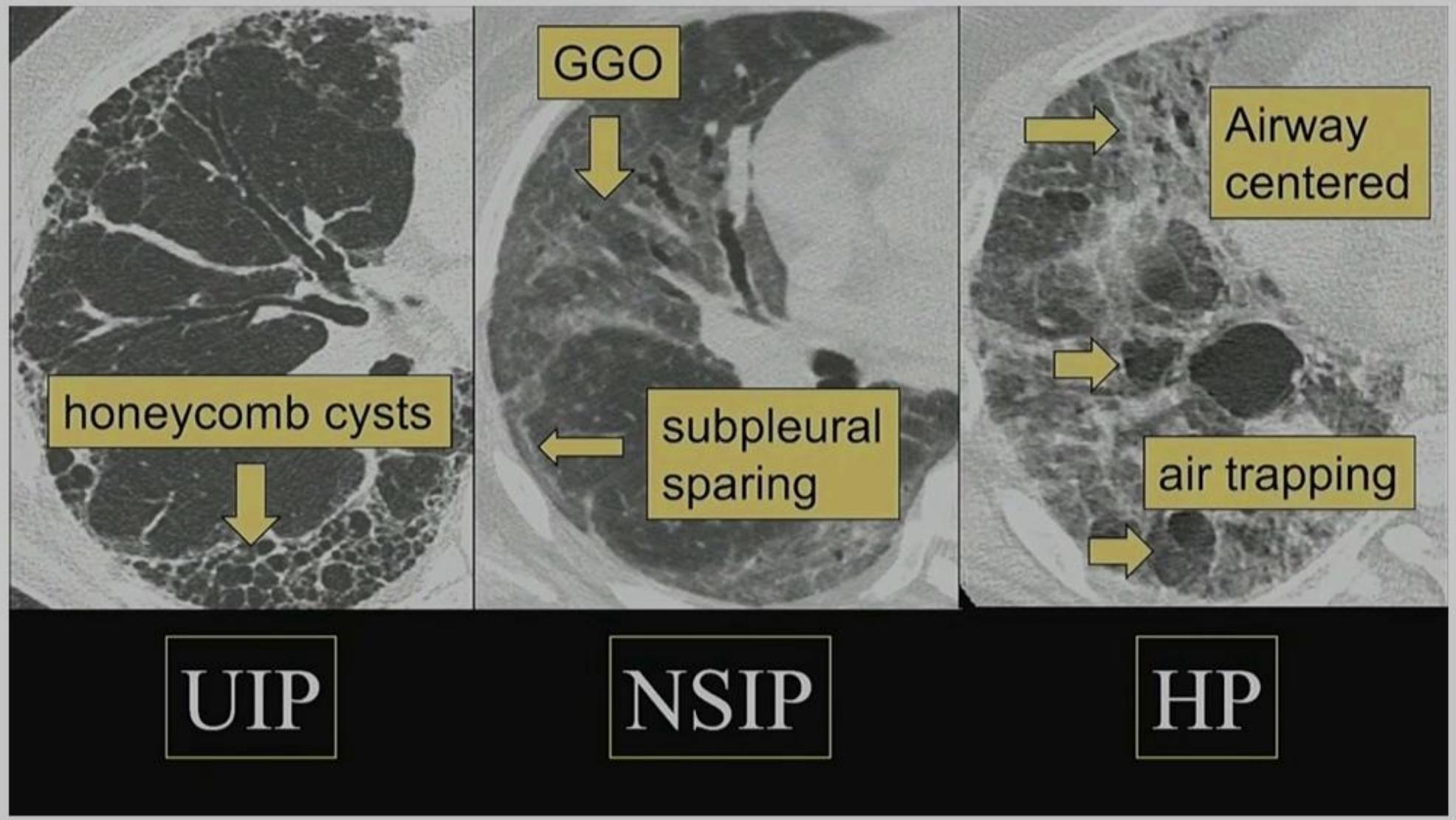


Non-specific interstitial pneumonia

- **Definition:**
- The term NSIP is a Description of a histological pattern rather than a specific clinical entity.
- NSIP may be idiopathic or occurs in association with other systemic condition most notably connective tissue diseases.
- **Epidemiology** : Typically affect younger patient than IPF, with age of onset 40 to 50 years.
- **Causes:**
  - ✓Idiopathic ,
  - ✓Connective Tissue Disease
  - ✓Drugs
  - ✓Infection

Non-specific interstitial pneumonia

- **Clinical Features**
  - ➢Breathlessness, Cough
  - ➢Weight loss is common
  - ➢Crackles at lung base
  - ➢Clubbing is a small proportion of patients


honeycomb cysts
GGO
subpleural sparing
Airway centered
air trapping
UIP
NSIP
HP

TAKE HOME MESSAGE

- **DPLD is not a single entity rather then a group of diseases affecting lung parenchyma.**
- **Treatment of DPLD depends upon specific variant which is a multidisciplinary approach involving pulmonologist, radiologist and occasionally thoracic surgeon for lung biopsy.**

THANK YOU



RESPIRATORY MEDICINE

KUSHTIA MEDICAL COLLEGE

