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Unusual case of Neonatal Respiratory Distress

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Fellow Neonatology

MODERATOR :-
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Paediatric Pulmnologist
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Neonatologist

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Case Presentation

- Presented on day 43 of life with
  - Noisy breathing on and off since last 15 days
  - Difficulty in breathing x 2 days
  - Low grade fever x 2 days

- No history of
  - Sudden onset choking
  - Cyanosis
  - Vomiting

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- Antenatal history :- was uneventful
- Natal history Birth history :- Vaginal delivery on 1-12-2021 at private hospital with birth weight of 2600 grams.
- Post natal history- was admitted for hyperbilirubinemia, discharged

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Work up

- Hemogram was done suggestive of
- Hb 12.8 mg/dl, TLC 6600 x 10^3 /Ul, (Polymorph 67, Lympho 30), Platelet 2.2 lac
- CRP 4.8mg/dl
- Blood culture was sterile
- Baby was started on iv antibiotics

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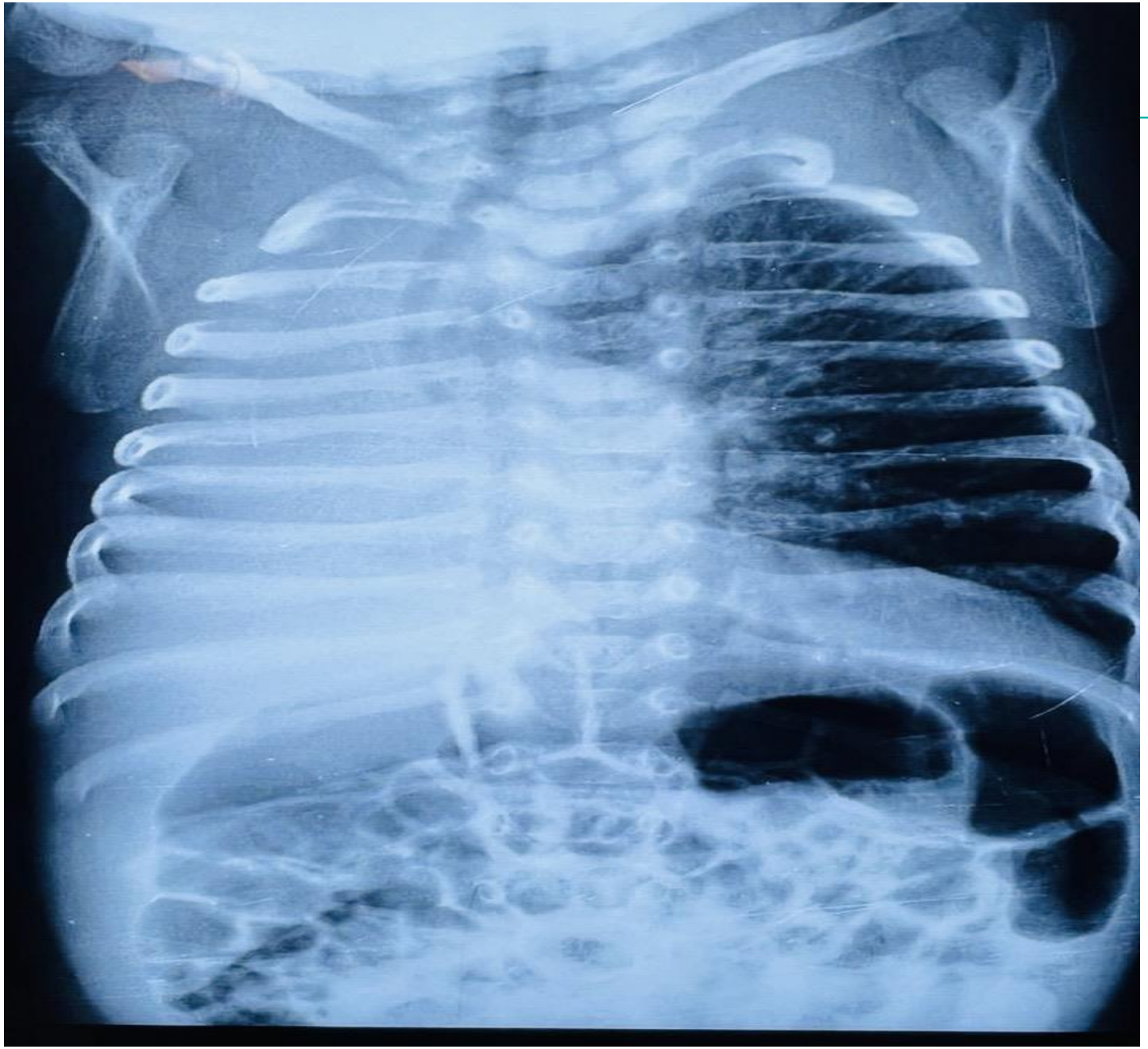
- Chest X ray



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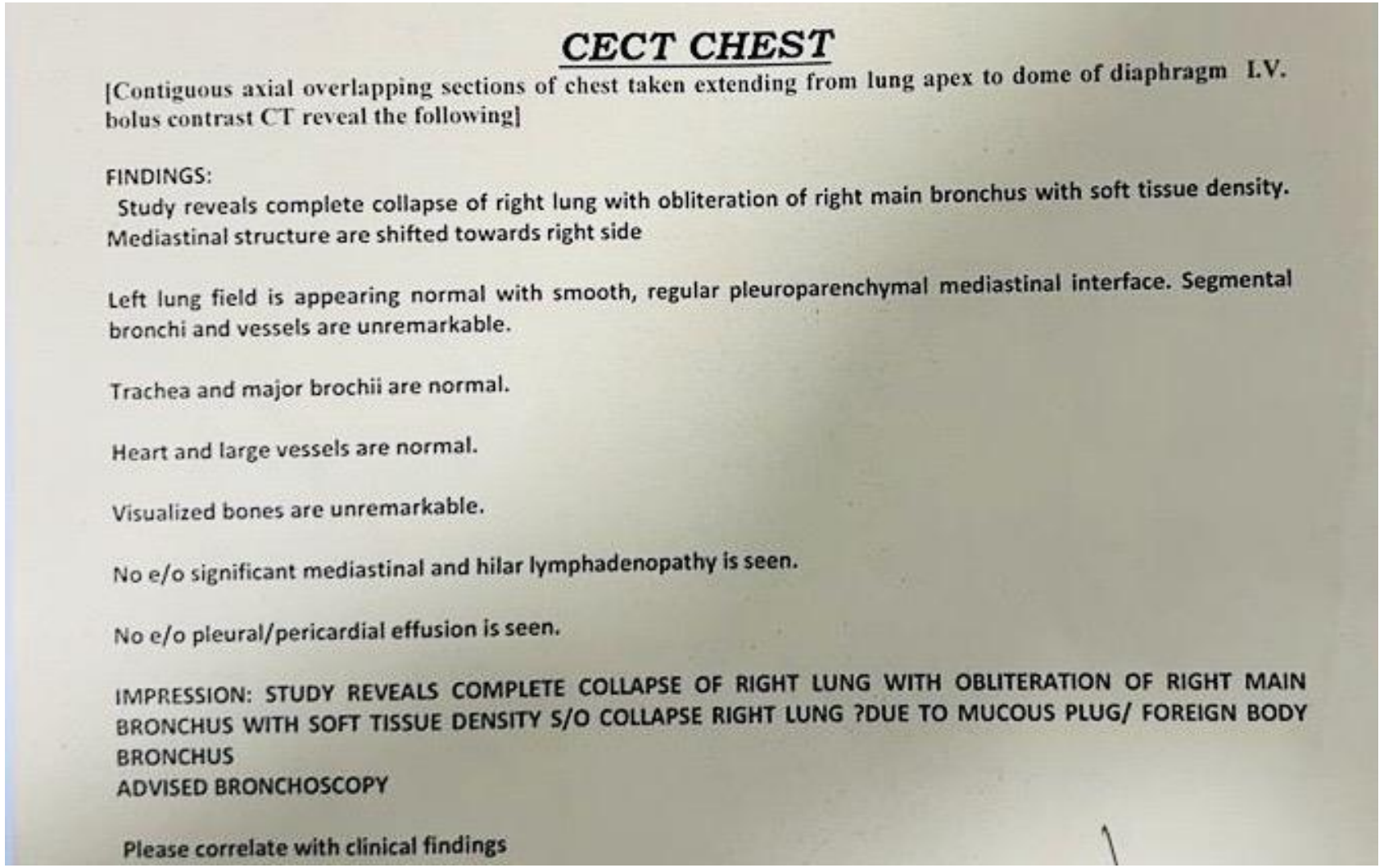
CT Report



CECT CHEST

[Contiguous axial overlapping sections of chest taken extending from lung apex to dome of diaphragm I.V. bolus contrast CT reveal the following]

FINDINGS:

Study reveals complete collapse of right lung with obliteration of right main bronchus with soft tissue density. Mediastinal structure are shifted towards right side

Left lung field is appearing normal with smooth, regular pleuroparenchymal mediastinal interface. Segmental bronchi and vessels are unremarkable.

Trachea and major brochii are normal.

Heart and large vessels are normal.

Visualized bones are unremarkable.

No e/o significant mediastinal and hilar lymphadenopathy is seen.

No e/o pleural/pericardial effusion is seen.

IMPRESSION: STUDY REVEALS COMPLETE COLLAPSE OF RIGHT LUNG WITH OBLITERATION OF RIGHT MAIN BRONCHUS WITH SOFT TISSUE DENSITY S/O COLLAPSE RIGHT LUNG ?DUE TO MUCOUS PLUG/ FOREIGN BODY BRONCHUS
ADVISED BRONCHOSCOPY

Please correlate with clinical findings

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- Rigid bronchoscopy was done to reveal cause of obstruction of right main bronchus.

- Baby came to blk hospital

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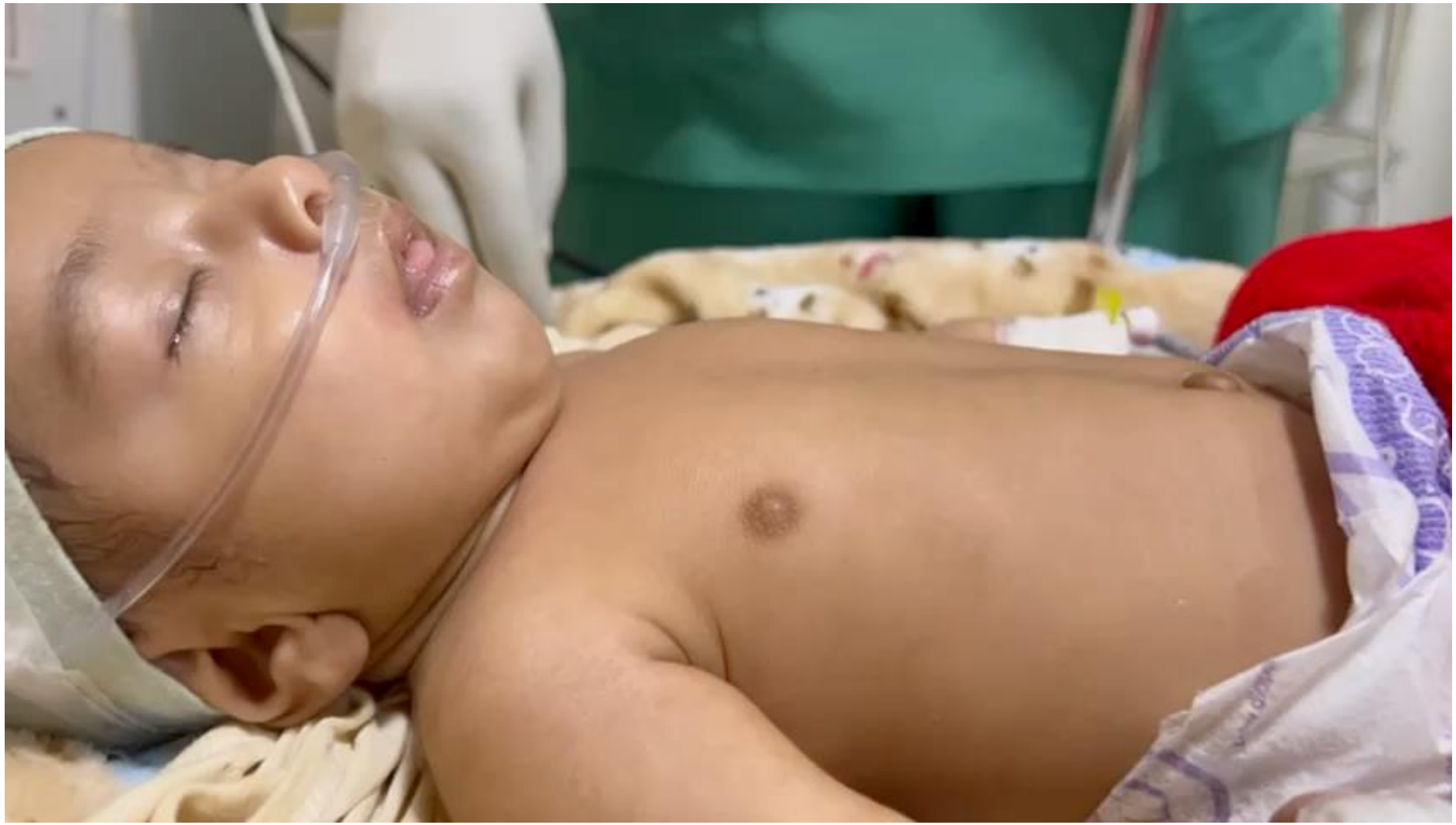
Clinically much better, than radiologically



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Physical examination

- Weight 5.2kg
- HR – 141/min, RR – 53/min
- Sp 02 – 95% (at oxygen with nasal prongs at 2l/min)
- Respiratory distress Present (SCR+)
- Wheeze Present
- No cyanosis / grunt /stridor
- No congenital abnormality (facial dysmorphism / skeletal deformity) noted

Systemic Examination

- Chest exam

  No obvious chest deformity noted

  - Trachea shifted to Rt
  - B/L chest movements symmetrical
  - AE -- Rt side
  - B/L chest conducted sounds

  Rest of the systemic examination was unremarkable

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Differential Diagnosis

- Right sided collapse
  - But why?
  - Viral Infection
  - Leuco-viscidosis (thick secretion)
    - Primary ciliary dyskinesia
    - Cystic Fibrosis
  - Congenital Lung Anomaly

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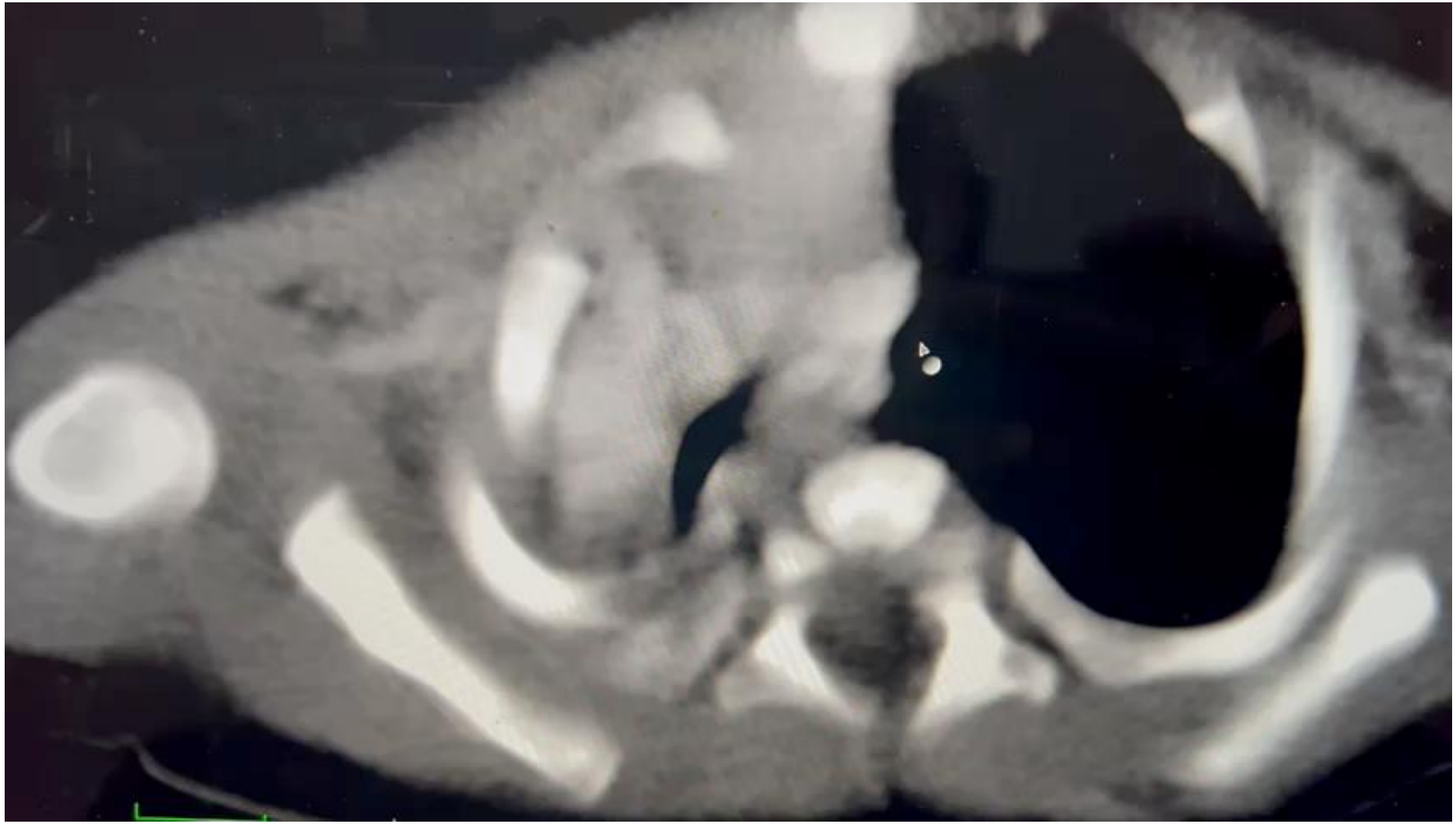
After reconstruction of images



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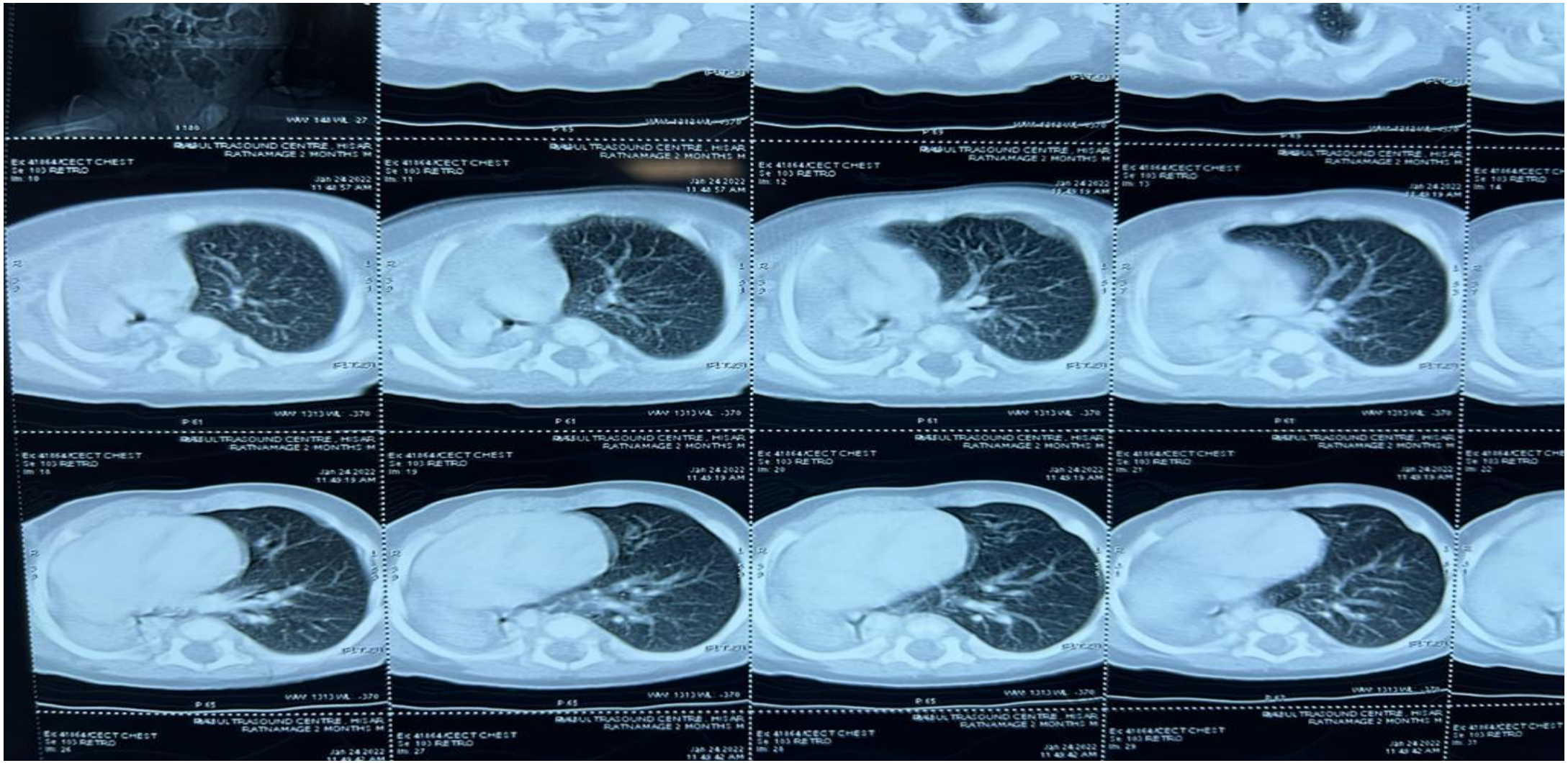
CT scan



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Bronchoscopy VIDEO

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Bronchoscopic findings

- Upper trachea after 2-3 rings showed complete cartilaginous rings suggestive of right sided tracheal stenosis
- Could not negotiate scope on right side of lung
- Left sided was normal

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Final Diagnosis

- Full term/ Appropriate for gestational age/ Neonatal Hyperbilirubinemia /
- Right sided aplastic lung with congenital tracheal stenosis

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Plan of treatment

- Stop Antibiotics
- Prognosis explained
- Only treatable - Tacheoplasty

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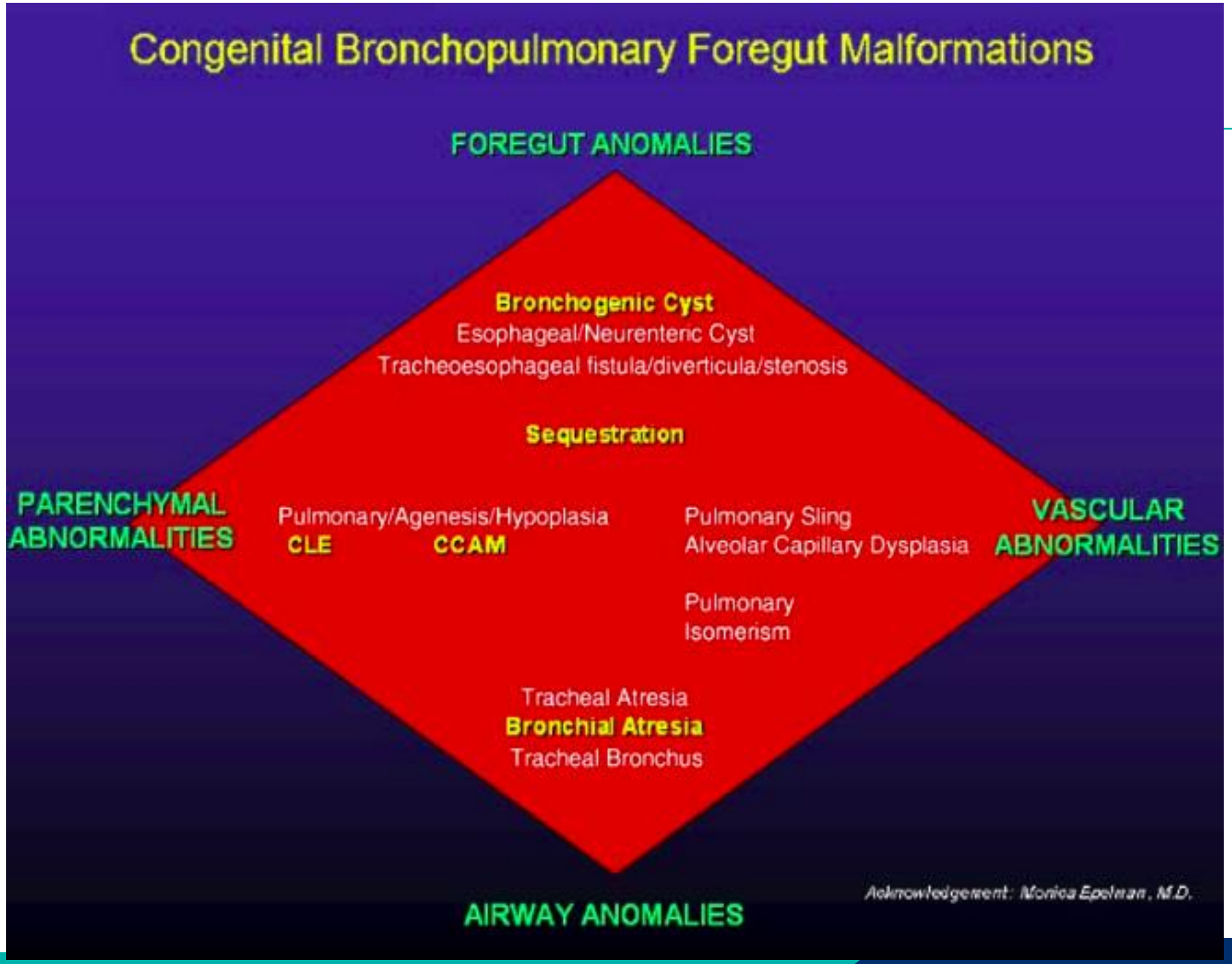
DISCUSSION



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Aplastic Lung

- Pulmonary Hypoplasia
- Primary
- Secondary
  - Intrinsic space occupying lesions
  - External uterine compressions associated with oligohydrominos (Renal absence)
  - Chest wall compression (kyphoscoliosis/ Skeletal dysplasias)
  - Neuromuscular or chromosomal disorders
  - Decreased pulmonary Vascular Perfusion include TOF, Pulmonary atresia, Hypoplastic right heart, Pulmonary vascular anomalies

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Take home messages

- Aplasia of lung is a rare lung malformation.
- Antenatal scan may not pick up the anomaly.
- Antenatally diagnosed Congenital cystic adenomatoid malformation may accompany aplasia of lung.
- A newborn with a opaque lung warrants bronchoscopy.
- CT scan confirms the diagnosis.
- Constant counselling and communication are essential.
- Regular follow up, prevention of chest infection, immunization and adequate nutrition are the key factors in management

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THANK YOU