

## Paediatric GWR

# A CHILD WITH CHRONIC COUGH..

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# Case History

- MI, 22 months, boy
- Chronic cough x 1 month
- Worsened 2 days pta, repeated bouts of cough a/w shortness of breath
- Intermittent fever

# Case History

- No h/o stridor or wheezing
- No h/o choking
- Reduced appetite
- No significant weight loss
- Active
- No contact with TB
- Conservative Rx by several GPs
  - 2 courses of antibiotics/oral salbutamol

# Clinical history

- No other medical problems
- Completed immunization
- Normal development
- No FHx of asthma

# Clinical findings

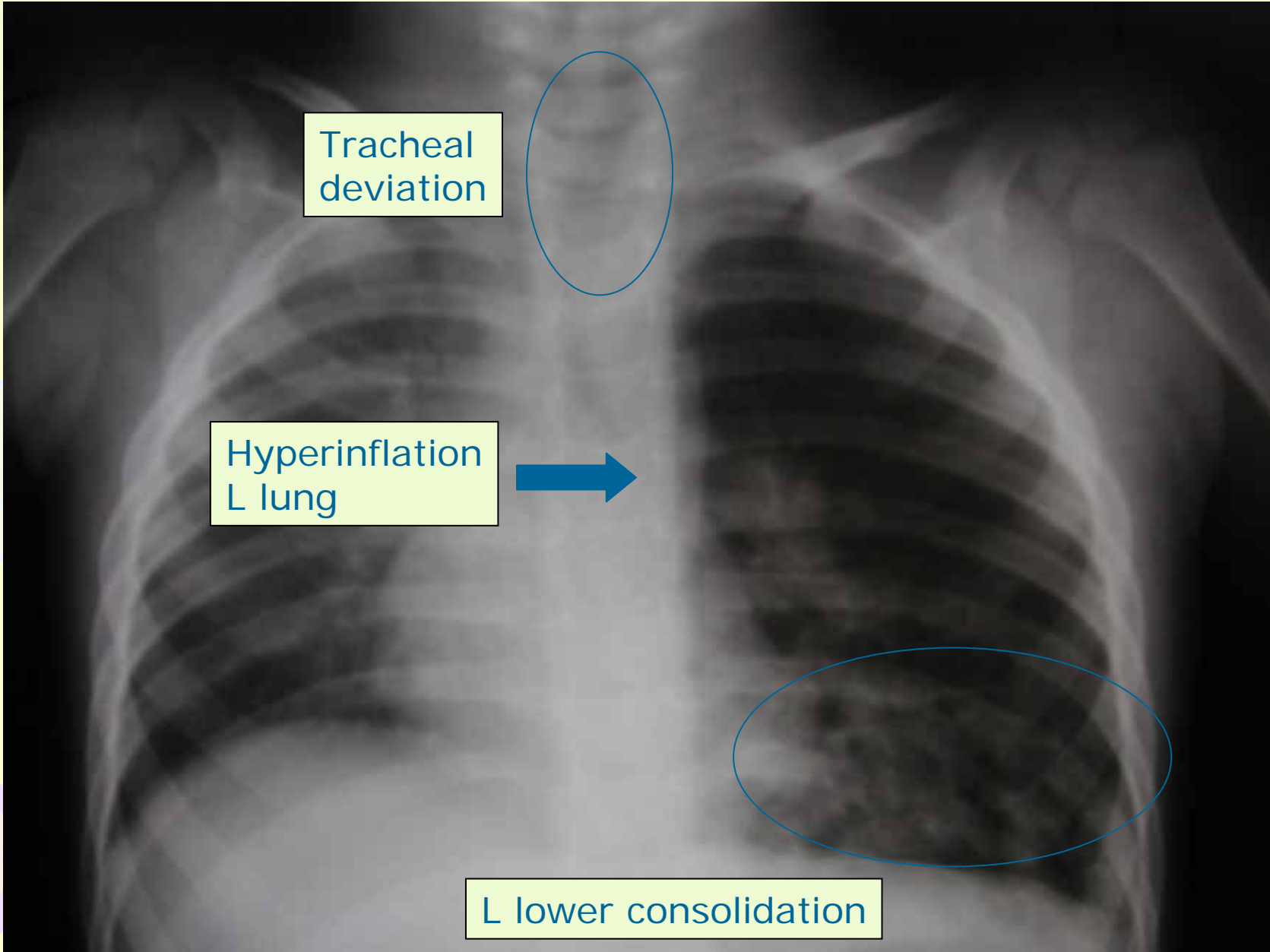
- Wt: 9.6kg (3<sup>rd</sup>.%); Ht:83cm (10<sup>th</sup>%)
- T: 38` C. No audible stridor/wheeze
- Tachypnoeic, RR 54/m
- Intercostal/subcostal recession
- SaO<sub>2</sub>; 92% room air
- No clubbing

# Clinical findings

- Trachea to R side
- Hyperinflation of L chest
- Breath sounds markedly reduced L lung
- Hyperresonance L lung
- Left basal coarse crepitations
- No hepatosplenomegaly

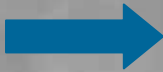
## Initial blood investigations

- Hb: 10.9 g/dL
- TW:  $16.9 \times 10^9$  g/L
- Neutrophil:  $74.5 \times 10^9$ /L
- Platelet:  $560 \times 10^9$  /L
- CRP: 5.25 mg/dl
- TB work-up - negative



Tracheal  
deviation

Hyperinflation  
L lung



L lower consolidation



A stylized profile of a human head is shown in light blue, facing right. A large, dark teal question mark is superimposed on the forehead area. The background is a solid light yellow color. Faint, larger-scale versions of the profile are visible in light green and light purple, creating a layered effect.

**? DIAGNOSIS**

# Progress

- Treated for pneumonia  
IV C. Penicillin/Cloxacillin x 1 week
- Chest findings & Repeat CxR  
remain the same
- Suspected foreign body inhalation
- Refer to ENT
- IV Cefuroxime

**REPEAT CxR after 1 week**

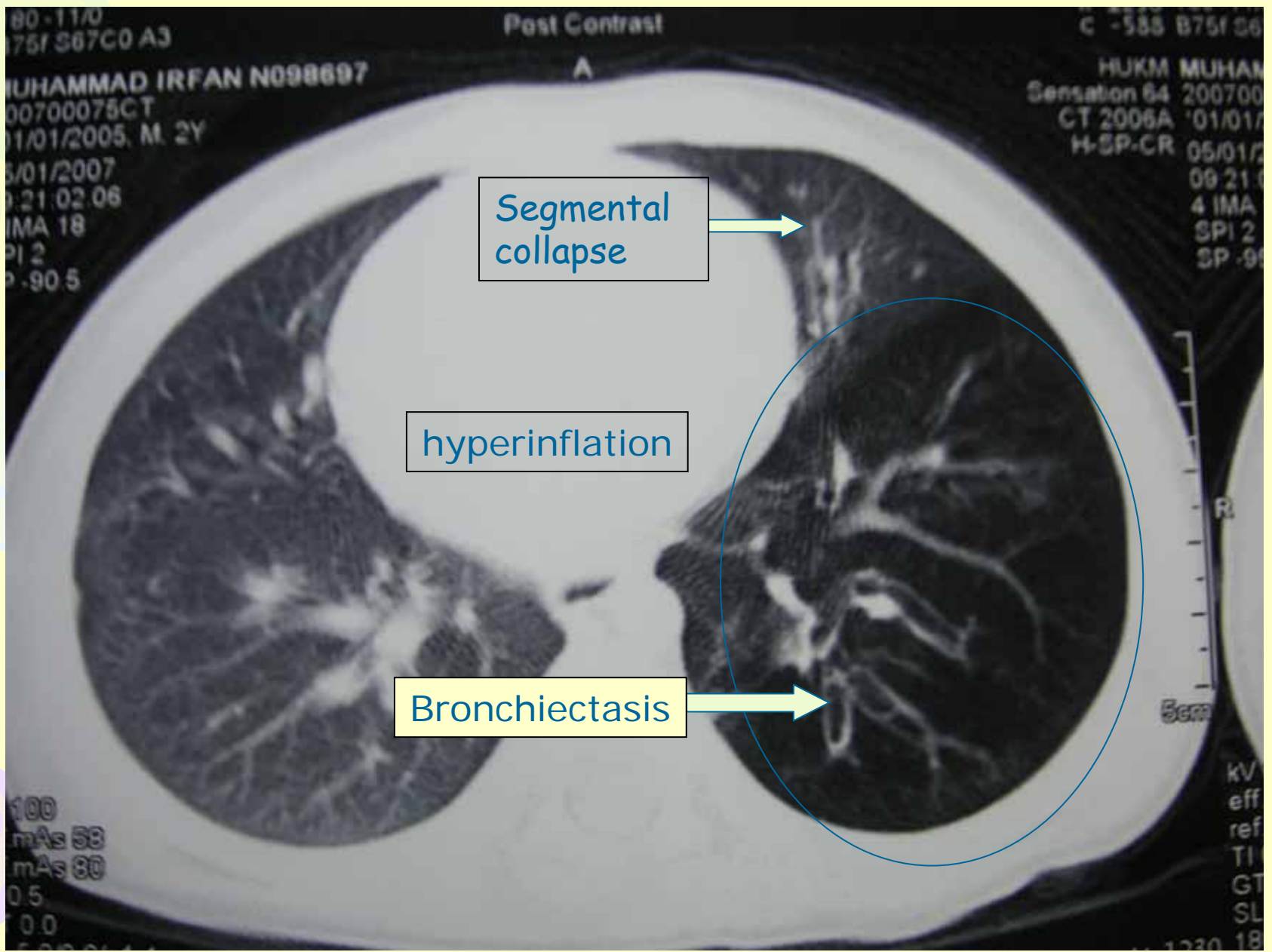


# Progress

- Rigid bronchoscopy: **NORMAL**  
both R/L main bronchus visualized  
No narrowing/ foreign body seen
- Afebrile, not tachypnoic
- Chest findings remained the same  
completed IV Cefuroxime x 1 week



**WHAT NEXT?**



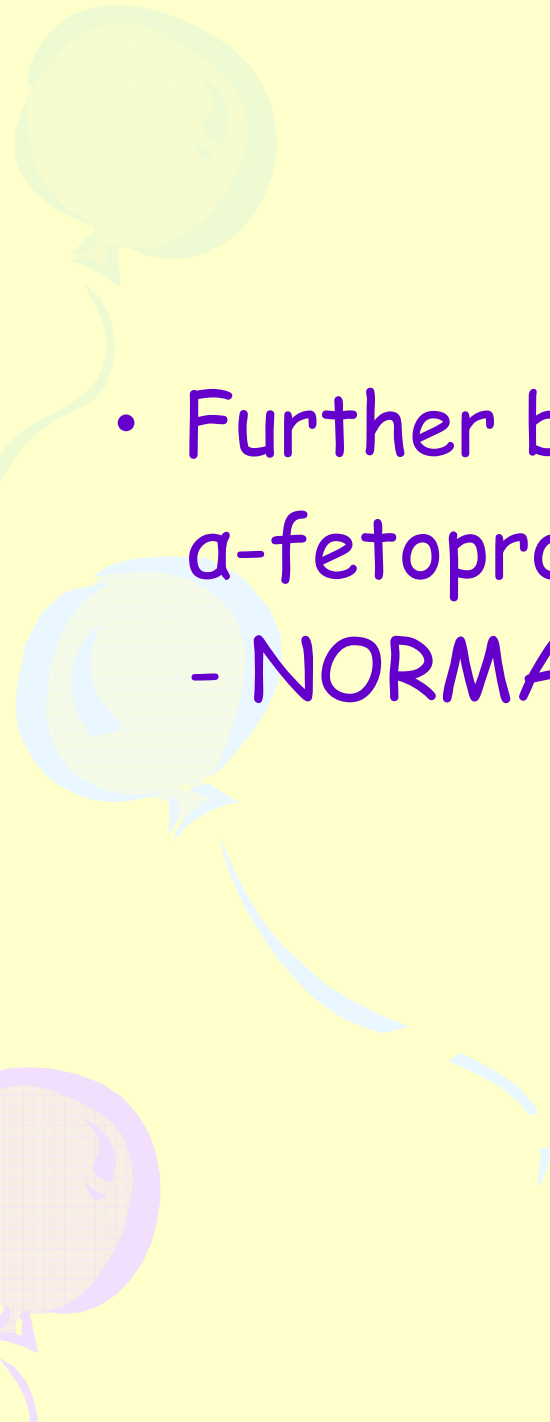


Posterior mediastinal mass compressing L main bronchus

# CT Thorax report

- Hyperinflated left lung with lower lobe bronchiectasis
- Subsegmental collapse and fibrosis of inferior lingula segment of left upper lobe/bronchiectasis changes
- Posterior mediastinal mass causing stenosis of the left main bronchus



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- Further blood tests  
α-fetoprotein, β-hCG, LDH, uric acid  
- NORMAL

# Cardiothoracic team - open L thoracotomy

- Intra-op findings:-

Bronchoscopy:

inflammed & completely obstructed L lower lobe

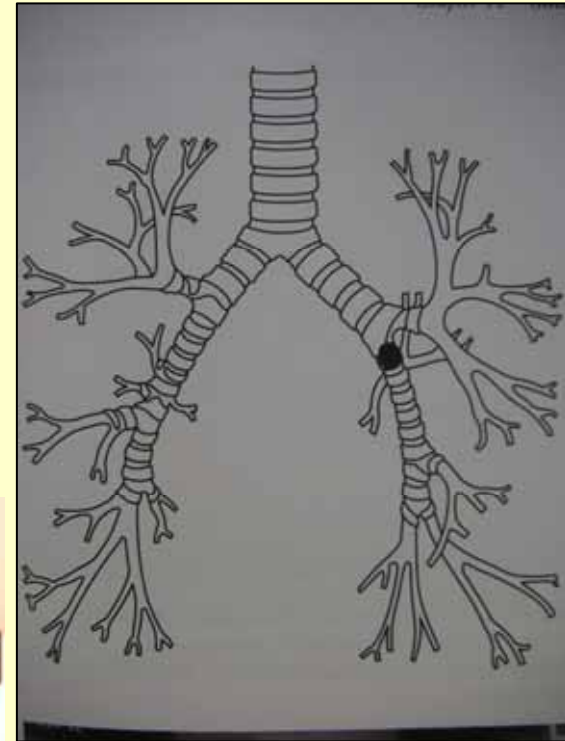
Multiple soft/well-defined LN perihilar/bronchial  
L lower lobe severely thickened with multiple  
parenchymal abscess and bronchiectatic changes  
→ removed

# Intra-op

- When bronchotomy was performed, a piece of FB →

PEANUT identified

↓  
REMOVED



# Final diagnosis

Peanut inhalation

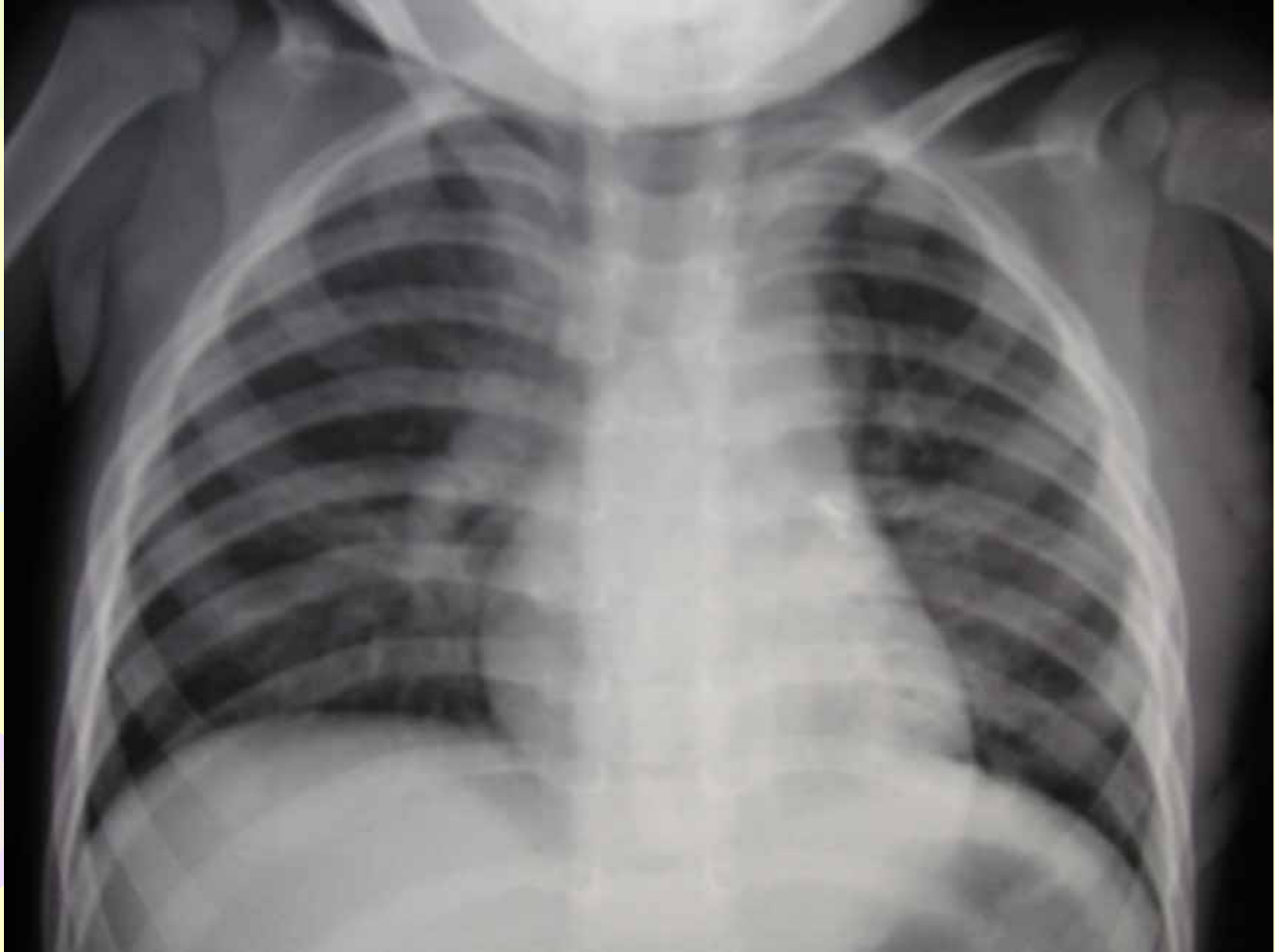
→ L lower lobe bronchiectasis  
L lower lobectomy done

FROZEN SECTION: REACTIVE LYMPH NODES, INFECTED LUNG

# Post-op progress

- Uneventful
- Ventilated x 1 day; O<sub>2</sub> x 2 days
- IV Augmentin/Flagyl x 10 days
- Physio
- Discharged after 10 days
- Well

Latest CxR : Post-op



# DISCUSSION

- FB inhalation can cause significant morbidity and mortality
- High index of suspicion, even without supportive history
- Consider diagnosis in a child who does not improve with treatment or persisting CxR changes

# DISCUSSION

- **Goncalves et al. J Bronchol, 2007**

*Series of 216 children (1988–2002)*

*- 203 pts: TFB removal (rigid scope)*

*- 13 pts: no FB; flexible scope*

*Peak age: 2<sup>nd</sup>. Year (~40%) [ 3/12 – 12 years ]*

*Removal time : 1 – 90 days (26% > 30 days)*

*77.8% h/o choking, witnessed aspiration*

*22% - normal CxR*

*Complications@ scope:*

*laryngeal spasm (5%); hemoptysis (4.2%); localized*

*wheezing (4.2%); pneumothorax (0.5%), seizure (0.5%),*

*cardiac arrest (0.5%)*



# DISCUSSION

- *Karakoc et al, International J of Paed Otorhinolaryngology, '07*

*32 cases of FBA (1997- 2004)*

*Median age 29.5 mths ( 17 -84.7)*

*Median symptomatic period: 3 months*

*None with h/o FBA, cough (91%), wheeze (87%)*

*Common misdiagnosis:*

*bronchitis, pneumonia, TB, croup*

*50% FBA -diagnosed after 3 months*

*Karakoc et al, International J of Paed Otorhinolaryngology, '07*

*Unnecessary Ix's (~30%): extensive immunological, sweat test*

*Unnecessary Rx*

*antibiotics (78.2%); inhaled  $\beta$ 2 agonist/steroids (37.5%);*

*anti-TB (21.9%)*

*F/up : 21 months*

*50.0%: complete remission*

*28.8% chronic respiratory symptoms*

*18.8% bronchiectasis*

*1 pt had lobectomy*

# FB: Rigid vs Flexible scope

## Rigid

- Ensuring 'control' of airway
- safe
- As a conduit through which TBF can be removed- large array of ancillary instrument to retrieve FB
- Missed diagnosis esp. if FB@ distal airways (2<sup>nd</sup>/3<sup>rd</sup>. Generations)

## Flexible

- Initial diagnosis
  - Visualization up to 2<sup>nd</sup>/3<sup>rd</sup>. generation airways
  - Safe
  - FB removal
- Mayo series ('02)  
2 FB removed, after failed trial with rigid

# FB inhalation in children

- organics materials (80-90%)  
absorb water, severe mucosal inflammation, swelling, partial → total obstruction
- Location  
no preponderant right side  
2/3<sup>rd</sup>. main stem bronchi

# Delayed diagnosis FB inhalation- sequelae

- Unresolving pneumonia
- Lung abscess
- Obstructive emphysema
- Localised bronchiectasis - surgical resection

# Conclusion

- This case highlighted the need to have a high index of suspicion for early diagnosis and intervention in order to prevent severe complication

Thank

you....

