

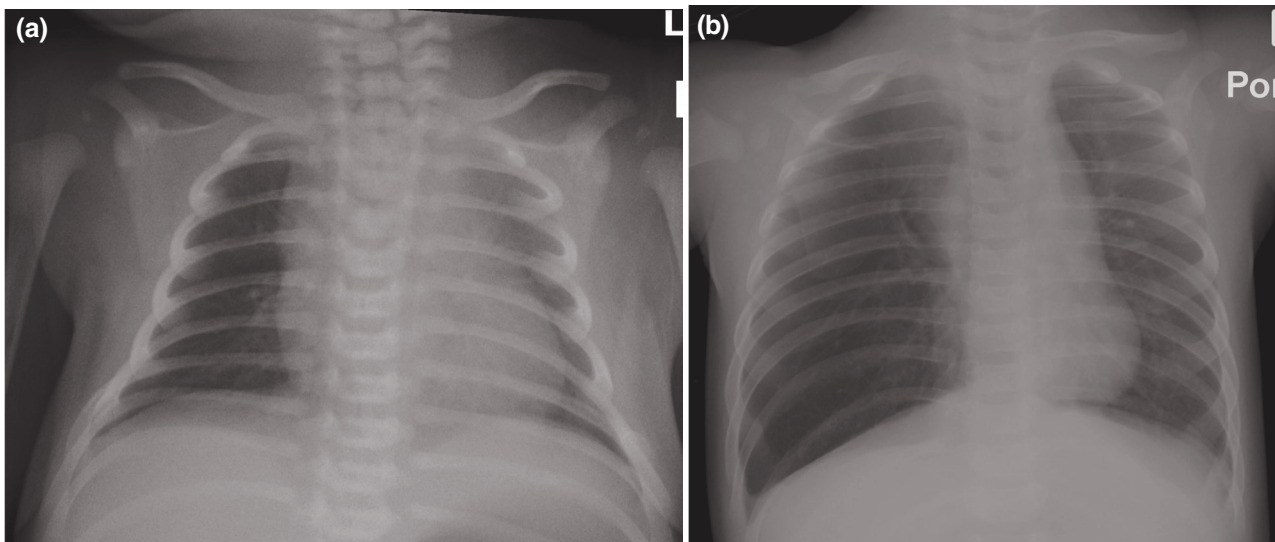


## **X-Ray Quiz**

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A term baby, presented with respiratory distress after birth, was treated as congenital pneumonia with symptoms improved after a course of antibiotics. Figure 1a is the Chest radiograph (CXR) taken in the first week of life. The patient remained well till 5 months old while the patient was readmitted for wheezing associated with fever and coryzal symptoms. Figure 1b is the CXR taken during admission and similar abnormal features persisted upon resolution of symptoms.



**Figure 1.** (a) CXR taken during first week of life. (b) CXR taken at 5 months old.

### **Questions**

1. What are the abnormalities seen on the Chest radiographs?
  - a) Figure 1a
  - b) Figure 1b
2. What further investigation is indicated?
3. What is the most likely diagnosis?
  - a) Hypoplasia of the left lung
  - b) Congenital lobar emphysema of right lung
  - c) Right sided Swyer-James syndrome due to post-infection
  - d) Right sided pneumothorax

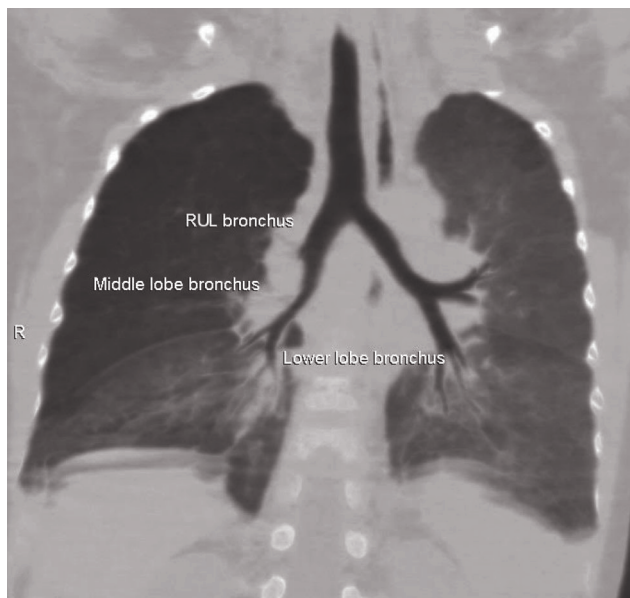
*(Answer on page 17)*



## Answers to X-ray Quiz on page 15

1. a. Figure 1a
  - The right lung was more radiolucent compared with the left lung
- b. Figure 1b
  - Mediastinal shift to left side
  - Triangular shaped opacity over medial region of right upper zone
  - Right lung volume increased with flattened right hemi-diaphragm
  - Right lung field hyper-lucent
2. CT scan thorax (Figure 2)
3. Answer b  
Congenital lobar emphysema of right middle lobe associated with narrowing of right middle lobe bronchus

Congenital lobar emphysema (CLE) is due to alveolar over-distension of a lung lobe frequently associated with intrinsic or extrinsic obstruction of the corresponding lobar bronchus. Causes of extrinsic obstruction include compression by vascular abnormalities or lymph node enlargement. Intrinsic causes can be due to granulation tissue, meconium aspiration or deficient cartilage of the bronchus.<sup>1</sup> Ninety percent of cases involved upper lobes and left side slightly more common than right side.<sup>1</sup> Some cases may be diagnosed in-utero and others may present as respiratory distress after birth. Most symptomatic patients will present in first six months of life. Cases being misdiagnosed as pneumothorax or pneumonia are not uncommon.<sup>2</sup> Severity of symptoms depends on the extent of air-trapping and compression on the other parts of the lung which determine the management options.<sup>2</sup> Lobectomy is the definitive management for patients with moderate severe symptoms and flexible bronchoscopy has been successfully used for acute management of CLE.<sup>2,3</sup> Some patients may be managed conservatively with good prognosis as in our patient who have mild interval symptoms and gradual improvement in serial CXRs.<sup>2</sup>



**Figure 2.** CT thorax with coronal reconstruction showed 1) collapse of right upper lobe corresponding to the triangular shadow seen in CXR (Figure 1b); 2) hyper-aerated right middle lobe; 3) mildly narrowed bronchus intermedius, narrowed right middle lobe bronchus and mildly narrowed right upper lobe and right lower lobe bronchus; 4) no intraluminal foreign body noted.

## References

1. Mendeloff EN. Sequestrations, congenital cystic adenomatoid malformations, and congenital lobar emphysema. *Semin Thorac Cardiovasc Surg* 2004;16(3):209-14.
2. Ulku R, Onat S, Ozcelik C. Congenital lobar emphysema: differential diagnosis and therapeutic approach. *Ped Internat* 2008;50(5):658-61.
3. Abd El-Moneim ES. Flexible bronchoscopy in the acute management of congenital lobar emphysema. *Arch Dis Child* 2012;97(Suppl 2):A179.