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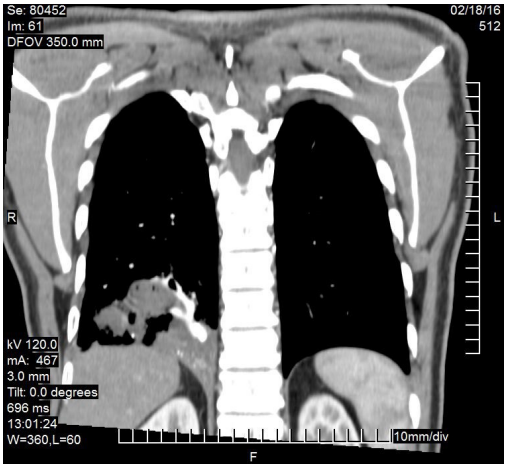

Figure 1. Subsequent Computed Tomography (CT) Scan With Contrast Showing Centrilobular Ground Glass Opacifications Contained Within the Right Lower Lobe.

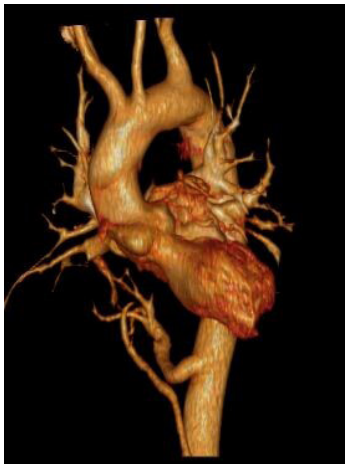

Figure 2. A 3-dimensional reconstruction CT angiography image revealed the dual arterial blood supply originating from both the thoracic and the abdominal aorta artery.

The patient was a 32 years old non-smoker, non-alcohol user man who presented to Shahid Motahari Clinic of Namazi Hospital with cough and fever and right side pleuritic chest pain since 3 weeks ago with gradual onset and progressive in nature, that with recognition of pneumonia received antibiotic therapy but his condition did not improve. There was history of recurrent pneumonia 2 years ago. There was no history of hemoptysis and gastroesophageal reflux, abdominal pain, melena, nausea, or vomiting. On the day of hospital admission, the patient was hemodynamically stable with low grade fever, normal bilateral breath sounds without any wheezes or crackles of the lung. Neurologic and cardiovascular systems were all within normal limits. Laboratory data revealed a white blood cell count of 12.5×10^3 cells/μL, hemoglobin of 12.8 g/dL, and a platelet count of 354000 cells/μL electrocardiography was usual. Chest X-ray showed the presence of an ill-defined density in the right lower lobe. Subsequent Computed Tomography (CT) scan with contrast showed centrilobular ground glass opacifications contained within the right lower lobe (Figure 1) and a 3-dimensional reconstruction CT angiography image revealed the dual arterial blood supply vessels originating from both the descending thoracic and the abdominal aortic arteries (Figure 2).

What is your diagnosis?
See the next page for your diagnosis.

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Photoclinic Diagnosis

Pulmonary sequestration with both thoracic and abdominal aorta arterial supply

The patient's preoperative radiologic diagnosis was not congenital broncoesophageal Fistula (BEF). Then, via right posterolateral thoracotomy, right inferior lobectomy was performed and the finding was an intralobar sequestration (ILS) lob with thoracic and abdominal aorta blood supply (Figure 3). The post-operation period was uneventful.

Pulmonary Sequestration (PS) is a rare congenital malformation that has no communication with the normal tracheobronchial tree.[1] It makes up 0.15%–6.4% of all congenital pulmonary malformations.[2] There are two variants: intralobar and extralobar.[3] The intralobar type forms 75%–86% of all sequestration cases while extralobar is about 14–25%. Its localization is more on the left side. The intralobar region receives arterial supply through the thoracic aorta (73%), abdominal aorta (21%) or intercostal arteries in 4% of cases. Venous drainage is mainly to pulmonary vein (95%) or azygous hemiazygous veins (5%) of cases.[4] Sequestrations are considered by their location, association to pulmonary or blood supplies to other structures. By description, their arterial blood supply is from the systemic flow. Most intralobar sequestration occurs in the lower lobes and is more often suspected in an older child who presents with recurrent pulmonary infection. The arterial supply typically is originated from the lower thoracic or upper abdominal aorta.[5,6] A provisional diagnosis could be made in some patients by progressive imaging such as Computed Tomography (CT) if an aberrant systemic artery can be identified with confidence. The final definitive diagnosis is only made by pathological examination after surgical resection. Approach to treatment depends upon whether the patient has respiratory distress, recurrent infections, or is asymptomatic. All patients with broncopulmonary sequestration who are symptomatic should undergo surgical excision. Advanced thoracic imaging should be completed prior to operation to confirm the diagnosis and support in surgical preparation. Complete excision of ILS usually requires lobectomy or segmental resection. Resection of extralobar sequestration (ELS) is simpler because the lesion has its own pleural investment. With both types, all vascular connections to the lesion must be identified and ligated. The arterial supply of these lesions may arise from the subdiaphragmatic aorta, and careful identification of the feeding vessel is crucial.

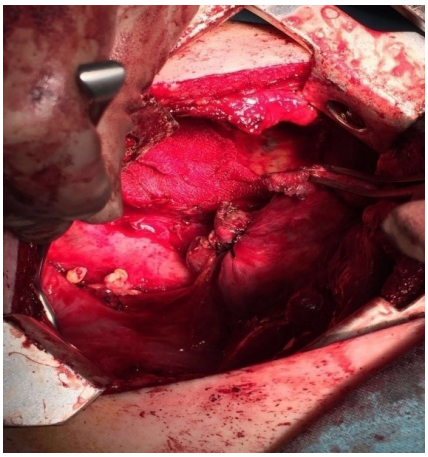

Figure 3. Subsequent Computed Tomography (CT) Scan With Contrast Showing Centrilobular Ground Glass Opacifications Contained Within the Right Lower Lobe.

Authors' Contribution

Data collection: SMS; Writing primary draft and manuscript, critical revision: MYK; Diagnosis and Surgical Procedure, final revision: BZ.

Conflict of Interest Disclosures

The authors have no conflicts of interest.

Ethical Statement

The ethical committee of Shiraz University of Medical Sciences declared ethical approval for the current study.

Acknowledgments

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