Journal of Respiratory Medicine and Lung Disease

Case Report
Published: 13 Jun, 2017

Haemoptysis in Adolescent Boy as a Complication of Vascular Anomaly

Lange J[1], Brzezińska-Rajszys G[2] and Krenke K[1]*

[1]Department of Paediatric Pulmonology and Allergy, Medical University of Warsaw, Poland

[2]Cardiac Catheterisation Laboratory, The Children's Memorial Health Institute, Poland

Abstract

Isolated unilateral absence of pulmonary artery is rarely complicated by haemoptysis. Authors describe this rare condition in a 12-year-old boy. Imaging findings, especially CT angiography, perfusion and ventilation scintigraphy are presented.

Keywords: Pulmonary artery agenesis; Radiological technics

Introduction

Haemoptysis is a rare but potentially life-threatening problem in children. Infections such as pneumonia, bronchitis and tuberculosis, foreign body aspiration or trauma are the most common causes [1]. Other relatively common etiologies are congenital heart diseases and trauma. In this short communication case of haemoptysis as a complication of vascular anomaly is presented.

Case Presentation

A 12-year-old boy with a negative history of chronic respiratory diseases was admitted to our hospital due to an acute episode of haemoptysis, tachypnea and tachycardia [2]. On admission, slightly reduced breath sounds over his left chest were noticed. His chest X-ray showed distinctly larger right lung with left upper and lower mediastinal shift (Figure 1). During rigid bronchoscopy, bloody mucus was evacuated from the main left bronchus [3]. The thoracic HRCT showed a hypoplastic left lung with ipsilateral mediastinal shift. The left pulmonary artery was absent (Figure 2). Additional vessel just below aortic arch was seen (Figure 3) [4]. On pulmonary perfusion scintigraphy of the left lung a complete absence of up take in perfusion scans and diminished radioisotope uptake in

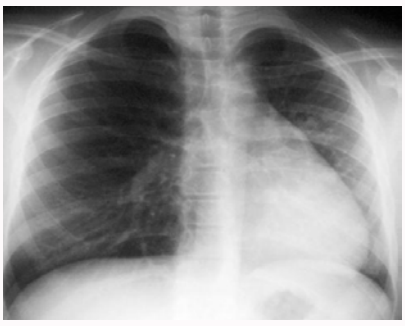

Figure 1: Chest radiography – left-upper and lower mediastinal shift, predominant right lung.

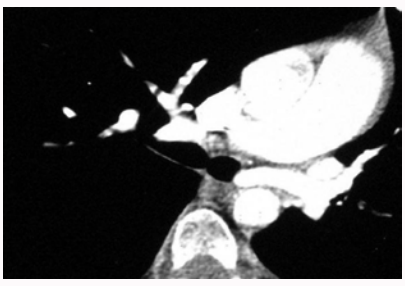

Figure 2: HRCT – lung window – absence of the left pulmonary artery.

OPEN ACCESS

Correspondence:
Lange Joanna, Department of Paediatric Pulmonology and Allergy, Medical University of Warsaw, Poland, E-mail: joanna.lange@wum.edu.pl

Received Date: *24 Apr 2017*
Accepted Date: *06 Jun 2017*
Published Date: *13 Jun 2017*

Citation:
Lange J, Brzezińska-Rajszys G, Krenke K. Haemoptysis in Adolescent Boy as a Complication of Vascular Anomaly. J Respir Med Lung Dis. 2017; 2(2): 1017.
ISSN: 2475-5761

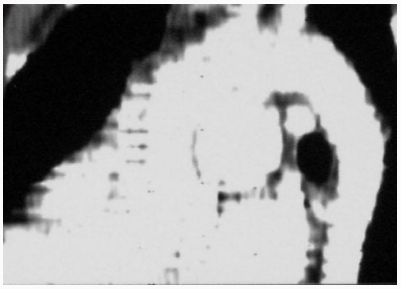

Figure 3: Secondary vessel below aortic arch.

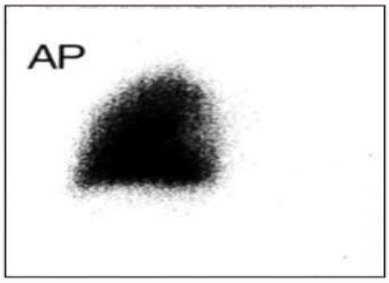

Figure 4: Perfussion scintigraphy – no uptake of radioisotope in the left lung.

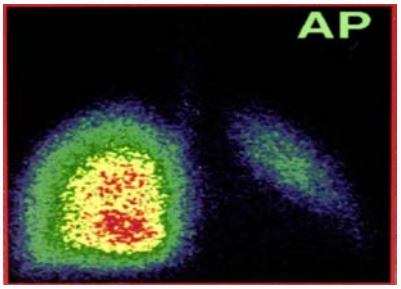

Figure 5: Ventilation scintigraphy – diminished uptake in the left lung.

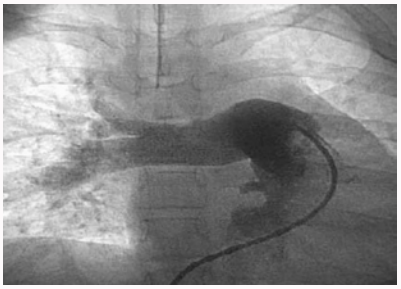

Figure 6: Cardiac catheterisation – agenesis of the left pulmonary artery.

ventilation scans were shown (Figures 4 and 5).

Cardiac catheterization confirmed the agenesis of left pulmonary artery (Figure 6). Two vessels: one extending from the aortic arch (Figure 3) and the other from the descending aorta droved blood to the left hypoplastic lung. Pulmonary venous return was normal. No other cardiopulmonary abnormalities were detected. Pulmonary hypertension was absent. During 15 years of follow-up patient developed several clinically insignificant episodes of haemoptysis. To date, he has not required surgical intervention.

Conclusions

The isolated unilateral absence of a pulmonary artery (UAPA) is a rare condition with different clinical presentation. UAPA is twice as common on the right side. The absence of left pulmonary artery is in 80% a part of other cardiovascular anomalies. Hemoptysis occurs in 20% of described cases. Diagnosis of UAPA is difficult. Especially in infancy it can be delayed due to scarce and, nonspecific symptoms and signs. Pulmonary hypertension is a severe complication of UAPA and significant increases the mortality of the disease. There is no consensus regarding the treatment of isolated UAPA. It is based on the severity of symptoms, pulmonary artery anatomy, cardiovascular abnormalities and pulmonary hypertension. In severe recurrent infections or life-threatening haemoptysis, pneumonectomy total or partial is indicated. In some cases, embolization of the bleeding vessel is a recommended treatment. Early diagnosis, as well as surgical treatment, may improve the outcome.

References

1. Ten Harkel AD, Blom NA, Ottenkamp J. Isolated unilateral absence of pulmonary artery: a case report and review of the literature. Chest. 2002;122:1471-7.
2. Koga H, Hidaka T, Miyako K, Suga N, Takahashi N. Age-related clinical characteristics of isolated congenital unilateral absence of a pulmonary artery. Pediatr Cardiol. 2010;31:1186-90.
3. Kruzliak P, Syamasundar RP, Novak M, Pechanova O, Kovacova G. Unilateral absence of pulmonary artery: pathophysiology, symptomes, diagnosis and current treatement. Arch Cardiovasc Dis. 2013;106:448-54.
4. Emren SV, Tülüce SY, Tülüce K. Isolated congenital unilateral agenesis of the left pulmonary artery with left lung hypoplasia in an asymptomatic adult patient. Acta Cardiol Sin. 2015;31:572-5.