

## Case Report

# Isolated Endobronchial Capillary Haemangioma: A Rare Cause of Haemoptysis in Adult

Susmita Kundu<sup>1</sup>, Aparup Dhua<sup>2</sup>, K. Hariprasath<sup>1</sup>, Saswata Ghosh<sup>3</sup> and Ankan Bandyopadhyay<sup>4</sup>

Department of Pulmonary Medicine, R.G. Kar Medical College and Hospital,<sup>1</sup> Kolkata Midnapore Medical College and Hospital,<sup>2</sup> Malda Medical College and Hospital,<sup>3</sup> West Bengal, Postgraduate Institute of Medical Education and Research, Chandigarh,<sup>4</sup> India

## Abstract

Endobronchial capillary haemangioma is a very rare benign tumour in adults. The clinical presentation and management of adult capillary haemangiomas involving the tracheo-bronchial tree is not yet established. We present a case of an isolated capillary haemangioma of the left main bronchus detected during the evaluation of an adult male presented with haemoptysis. The lesion was managed successfully bronchoscopically. [Indian J Chest Dis Allied Sci 2015;57:109-111]

**Key words:** Haemangioma, Capillary, Endobronchial haemangioma, Haemoptysis.

## Introduction

Haemangioma is a common benign tumour of the head and neck in children.<sup>1</sup> However, capillary haemangiomas of the tracheo-bronchial tree are very rare in both infants and adults.<sup>2</sup> Only a few cases of isolated capillary haemangiomas involving tracheo-bronchial tree have been reported globally.<sup>3</sup> We report the case of an adult patient presenting with haemoptysis in whom histopathologic examination of the bronchoscopic biopsy specimen confirmed the presence of isolated endobronchial capillary haemangioma. This is the first case report of an endobronchial capillary haemangioma of adult from India.

## Case Report

A 35-year-old, non-smoker, male farmer without any pre-existing comorbid conditions presented with four episodes of mild haemoptysis during last 15 days. There was no history of similar episodes in the past.

On general physical examination, the patient was afebrile and haemodynamically stable. Physical examination of both upper and lower respiratory systems and other systems was also normal. Laboratory investigations revealed: haemoglobin 12 g/dL; total leucocyte count 7800/mm<sup>3</sup>. The differential count, platelet count, serum biochemistry including electrolytes, erythrocyte sedimentation rate, C-reactive protein, coagulation profile, arterial blood gas analysis were all normal. Sputum examination was negative for acid-fast bacilli.

A plain chest radiograph (postero-anterior view) did not reveal any obvious abnormality. Plain and non-ionic intravenous contrast-enhanced spiral high resolution computed tomography (HRCT) of thorax revealed a small polypoid in homogeneously enhancing lesion (6 mm × 5 mm) arising from the anterior wall of the left main bronchus without any other abnormality (Figures 1 and 2).

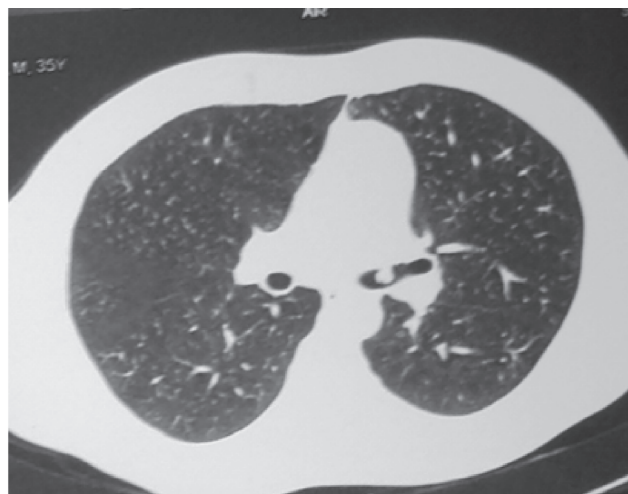


Figure 1. High resolution computed tomography of chest showing a small polypoid lesion arising from the anterior wall of the left main bronchus.

Flexible fiberoptic bronchoscopy (FOB) under local anaesthesia revealed a small (approximately 0.75 mm × 10 mm) polypoid mass partially occluding the left main bronchus (Figure 3). It was not possible to pass the bronchoscope beyond the mass. Bronchoscopic excisional biopsy was performed. This resulted in a small amount of bleeding which subsided after endobronchial instillation of 1:10,000 epinephrine.

[Received: March 27, 2014; accepted: June 3, 2014]

**Correspondence and reprint requests:** Dr Aparup Dhua, Katjuridanga (Saratpally), P.O-Kenduadihi, Dist-Bankura-722 102 (West Bengal), India; E-mail: docaparup@gmail.com

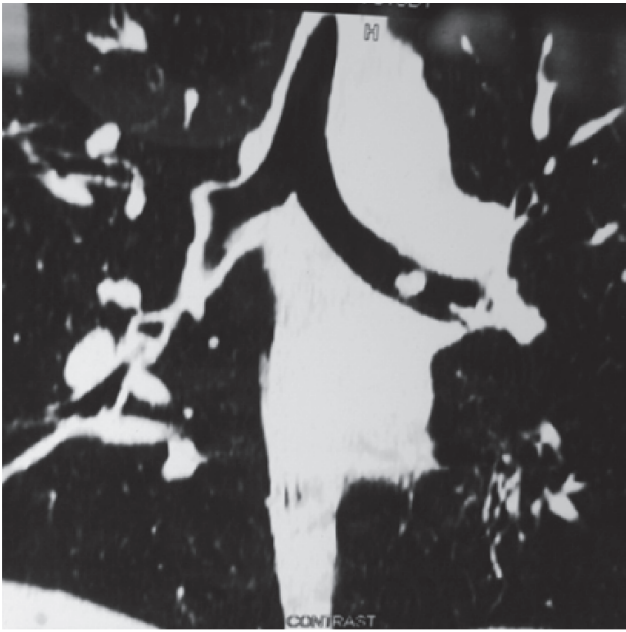


Figure 2. Contrast enhanced computed tomography of chest (coronal section) showing a small polypoid inhomogeneously enhancing lesion arising from the left main bronchus.



Figure 3. Fiberoptic bronchoscopy showing a polypoid mass partially occluding the left main bronchus.

A single episode of minimal haemoptysis was observed within 48 hours following bronchoscopy. Histopathological examination of the polypoid mass (Figure 4) revealed flattened squamous epithelial cell layer with sub-epithelium showing areas of haemorrhage and small sized vessels lined by endothelial cell layer with surrounding oedematous connective tissue; the arrangement of vessels were lobular at places without any muscle layer. The histopathological findings confirmed the presence of a lobular capillary haemangioma. No further episodes of haemoptysis occurred on three months follow-up.

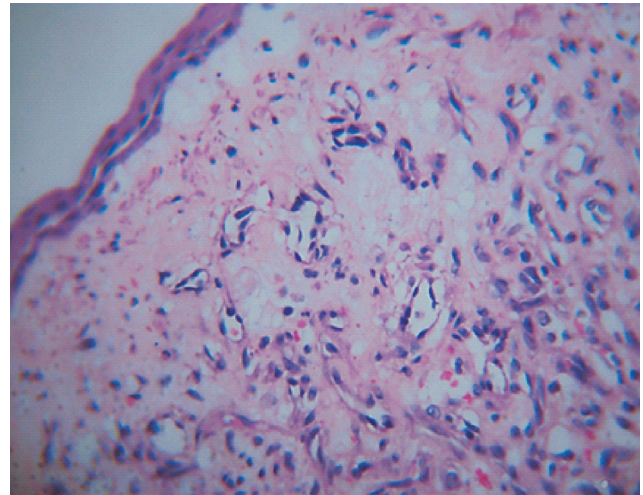


Figure 4. Photomicrograph showing flattened squamous epithelial cell layer with subepithelium showing areas of haemorrhage and small sized vessels lined by endothelial cell layer but without any muscle layer (Haematoxylin-Eosin $\times$ 400).

Repeat bronchoscopic examination revealed healthy mucosa over the affected site without any other endobronchial lesion.

## Discussion

Haemangiomas are benign tumours that usually appear a few weeks after birth, grow more rapidly during infancy and undergo spontaneous slow involution later in childhood.<sup>1</sup> A capillary haemangioma is the most common variant of haemangiomas. Although the pathogenesis is not completely understood, it is known that rapid proliferation of the endothelial cells is characteristic. These very frequently located at skin, cervicofacial region and the upper respiratory tract.<sup>4</sup> Haemangiomas of the airways have been classified as infantile and an adult varieties.<sup>5</sup> The infantile types usually appear in the subglottic airways and present with dyspnoea and stridor. The adult type are usually supraglottic and hoarseness of voice with little or no dyspnoea is the most common manifestation.

Capillary haemangiomas of tracheo-bronchial tree are very rare in both infants and adults.<sup>2</sup> The clinical presentation and management of capillary haemangiomas involving adult tracheo-bronchial tree has occasionally been documented. According to previous reports tracheo-bronchial capillary haemangiomas may be smooth, lobular or pedunculated lesions.<sup>3</sup> Our patient had a polypoidal lesion. Most of the reported patients including our patient had presented with haemoptysis.<sup>3</sup> Patients may also be presented with wheezing,<sup>6</sup> cough<sup>4</sup> or atelectasis.<sup>7</sup>

FOB is important in the diagnosis and treatment of haemangiomas located in the trachea and bronchi. While the diagnosis is usually evident after bronchoscopy, dynamic contrast enhanced CT is a

valuable non-invasive method for the evaluation of airway haemangiomas.<sup>8</sup> It can be used to confirm the diagnosis in patients with equivocal findings on bronchoscopy, and some workers believe that CT findings are sufficiently specific to be recommended as the primary diagnostic method.<sup>9</sup>

Airway capillary haemangiomas respond well to bronchoscopic intervention. Several cases including our case responded to excisional forceps biopsy with adequate haemostasis resulting in minimal morbidity and no mortality.<sup>3</sup> Other treatment options for this condition include neodymium-doped yttrium aluminium garnet (Nd-YAG) laser, argon plasma coagulation, arteriographic embolisation, endotracheal brachytherapy, electrocautery and open surgery.<sup>3,6,10</sup> Cryotherapy has also been attempted.<sup>11</sup>

Although very rare, bronchial capillary haemangiomas may be a cause of haemoptysis in adults. CT of the thorax and FOB are immensely helpful in the management of this condition.

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