

## A case report on bronchoalveolar carcinoma presenting as non-resolving consolidation

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### Abstract

Bronchoalveolar carcinoma presenting as non-resolving consolidation is an uncommon presentation. The typical presentation of bronchoalveolar carcinoma is asymptomatic (solitary nodule) and remains without symptoms even as disease disseminates. We report a case of bronchoalveolar carcinoma presenting as non-resolving consolidation in a young male with productive cough, exertional breathlessness and physical examination revealing the features of right lower consolidation on x-ray chest, with subsequent CT of the chest and bronchoscopic examination revealed bronchoalveolar carcinoma. Patient had a good score and was managed conservatively.

**Keywords:** Bronchoalveolar carcinoma, Solitary nodule, Non-resolving consolidation.

### Introduction

Bronchoalveolar carcinoma is a peculiar form of lung carcinoma with variable clinical, radiographic and histological presentation and occurs most frequently among non-smokers, women and Asians. It is a subtype of adenocarcinoma of lung, but has significantly different presentation; treatment and prognosis. Bronchoalveolar carcinoma represents 6.5 % of pulmonary neoplasms (1). There has been a substantial increase in the percentage of pulmonary adenocarcinoma accompanied with a decrease in squamous cell carcinoma in recent decades (2). Bronchoalveolar carcinoma (BAC) represents 1.5%–6.5% of all primary pulmonary neoplasms. Most patients are between 40 and 70 years of age (3). BAC is

derived from the epithelial cells located distally to the terminal bronchioles, and is defined as a primary lung cancer in peripheral locations. It is found growing in a lepidic (scale-like) manner near the alveolar septae without parenchymal, vascular, or pleural invasion (4). In the majority of cases, BAC appears as a peripheral pulmonary nodule; however, it may present as a segmental, lobar consolidation, with a multifocal or diffuse pattern (4,5). We report this uncommon case from a northern state of India with the peculiarity of presenting BAC as non-resolving consolidation.

### Case presentation

65 year old male, smoker, farmer by occupation, had four months productive cough. Sputum was mucoid and copious. The pa-

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tient had weight loss for 6 months and progressive exertional dyspnoea and fatigue, malaise for 4 months. He had no history of fever, chills and rigors. There was no history of haemoptysis, chest pain, and hoarseness of voice or symptoms suggestive of superior vena syndrome. He had no history of alcohol abuse or any documented primary malignancy as per records. The patient's symptoms did not respond to repeated courses of antibiotics taken initially at peripheral health centre where he was diagnosed as a case of community acquired pneumonia and referred from PHC to General hospital for the same.

On physical examination, patient was asthenic in built, afebrile, acyanotic, was euphonic, bronchial breathing on right mammary region and absent air entry in to inframamary region. His pulse rate was 88bpm, Blood pressure 110/80mmHg respiratory rate of 20 breaths per minute and body temperature was 37.6 °C. There was no localised wheeze or digital clubbing. CBC showed mild anaemia. Liver and kidney function tests and kidney function tests were within normal limits. Serial chest x-rays revealed right sided non resolving consolidation. For evaluation of non-resolving pneumonia fibre optic bronchoscopy was done. Bronchoalveolar lavage fluid and biopsy from lung lesion showed bronchoalveolar carcinoma. HRCT revealed consolidation in right lower zone. Sputum and blood culture tests did not reveal any micro organisms. Hence diagnosis of bronchoalveolar carcinoma was made. Patient was treated with a course of chemotherapy with good response.

### Discussion

Bronchoalveolar carcinoma is a subtype of adenocarcinoma of lung that is distinguished by its peripheral location, well differentiated cytology, growth along intact alveolar septa "the so called lepidic growth pattern" and tendency for both aerogenous and lymphatic spread. In the World Health Organization (WHO), classification of lung tumours, bronchoalveolar carcinoma is considered as a subtype of of adenocarcinoma (6).

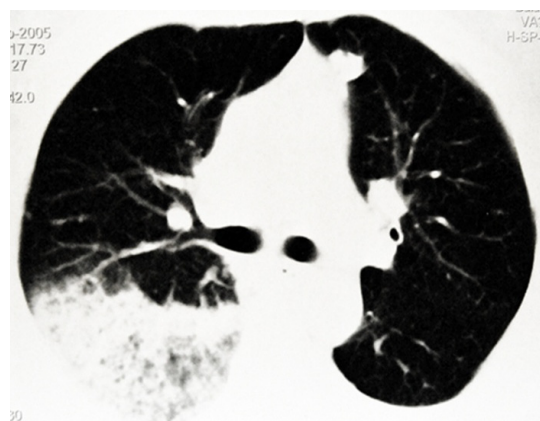


Fig.1. CT chest revealing right sided non-resolving consolidation

The WHO defines Bronchoalveolar carcinoma as a subtype of adenocarcinoma with growth along the alveolar septa and without evidence of stromal, vascular or pleural invasion. Although only 4% of lung cancers meet this definition, up to 20 % of lung cancers comprise a heterogeneous group of tumours with BAC histology mixed with a varying population of invasive cells, ranging from predominant BAC histology with a small focus of invasion, to invasive adenocarcinoma with an isolated group of cells with BAC features at periphery (7,8). More than half of all patients with BAC are asymptomatic and remain without symptoms even as the disease disseminates. The most frequently reported symptoms and signs are cough, sputum, and shortness of breath, weight loss, haemoptysis, and fever. Bronchorrhea is unusual and a late manifestation seen only with diffuse BAC (9).

Typically three different radiological patterns are seen in BAC: a solitary nodule or a mass of varying density, focal consolidation, or multifocal (diffuse) disease (3). The most common radiological finding is a solitary peripheral, lobulated or ill-margined pulmonary nodule or mass. The consolidative form of BAC (30% of cases) corresponds to a mucinous histological subtype, and may be focal, ill-defined, ground-glass, lobar or multifocal. Non resolving central or peripheral consolidation, especially with associated nodules, raises the possibility of BAC. The patient described here had negative sputum

cytological examinations and radiological picture revealed right lower consolidation. The patient thereafter underwent bronchoscopy which demonstrated typical features of bronchoalveolar carcinoma in transbronchial biopsy specimens. This case represents a non-resolving consolidation treated as pneumonia in periphery. The patient had low performance score and underwent chemotherapy to control the severity of symptoms. Diffuse bronchoalveolar carcinoma is an aggressive tumour that responds poorly to radiation and chemotherapy, and the five years survival is similar to that of other forms of lung cancer. Resectional surgery is rarely successful since even patients with apparent lobar localization of tumour have more widespread disease when examined by CT (11).

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