

CASE REPORT

Adenosquamous Carcinoma of Lung-A Rare Case Report on Autopsy

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Abstract: Adenosquamous carcinoma is an extremely rare malignant neoplasm. It is a tumor showing both squamous and adenocarcinomatous differentiation, with each component constituting at least 10% of the tumor, according to WHO classification. Adenosquamous carcinoma of lung is a tumor which exhibit highly aggressive biological behaviour with early lymphnode metastasis. It's prognosis is poorer than that of either squamous cell carcinoma or adenocarcinoma, hence making its identification important.

Key words: Adenosquamous carcinoma, Lung, Prognosis.

Introduction

Adenosquamous carcinoma (ASC) of lung is a rare and poorly described entity and an uncommon form of lung carcinoma [1-2]. It represents about 3.5% of resected lung cancers. It is more frequent in male smokers. Radiation, air pollution and genetic predisposition also play a role [3]. ASC of lung is a tumor which exhibit highly aggressive biological behaviour with early lymphnode metastasis [4]. According to the most recent WHO classification of lung tumors, a definitive diagnosis of lung ASC requires a minimum of 10% each component in the whole tumor [5]. We report a rare case of ASC diagnosed on autopsy in a defence personnel.

Case History

38 years male had died due to massive hemoptysis with aspiration pneumonia. His clinical notes revealed symptoms of chest pain, cough with expectoration of 3 months duration and streaky hemoptysis of 15 days duration. He had significant loss of weight and appetite. There was h/o smoking for the past 10 years. There was no history of postural variation of cough, change of voice, puffiness or bluish discoloration of face. On general physical examination, he had mild anemia with grade II clubbing.

His investigations showed normal hematological parameters except for mild anemia and moderate increase in ESR. Blood sugar and creatinine were normal. Sputum for AFB was negative. On radiological examination there was a solitary nodule situated at the periphery of the lower lobe of left lung. CT scan showed heterogeneous attenuation of the lesion. With the above findings a clinical diagnosis of carcinoma lung was made. Before any further investigations could be carried out the patient had expired.

Pathological findings: Gross examination of the autopsy organs received was done. Left lung revealed opaque pleura on the lower lobe. The lobe was hard in consistency. On cut surface there was a well circumscribed solid gray white mass at the periphery measuring 5X4 cm, situated 1.5 cm from the diaphragmatic pleura. Areas of haemorrhage and necrosis were evident. Upper lobe was congested. Four hilar lymph nodes identified showed metastatic foci. Right lung was tumor free with bronchopneumonic changes. Metastasis was also evident in the sternum received, with erosive and lytic lesions near the manubrium sternii. (Fig 1). The other organs received were liver, spleen, kidneys, brain and heart which were congested and did not show any evidences of metastasis.



Fig.1: Gross specimen of left lung and sternum. Cut Section of lower lobe of lung shows gray white mass with areas of haemorrhage and necrosis and metastasis to hilar lymph nodes. Sternum shows metastatic foci in the manubrium sternii.

On microscopic examination, the H&E stained paraffin sections from the mass in the lower lobe of left lung revealed a malignant neoplasm. Well differentiated areas of both squamous (60%) and adenocarcinomatous (40%) differentiation were present discretely. Areas of squamous differentiation showed presence of keratin and intercellular bridges. Glandular differentiation was in the form of acini and tubules, with abundant mucin (Fig. 2).



Fig.2: Photomicrograph showing both squamous and adenocarcinomatous differentiation. (H&E Stain; x 200)

PAS stain showed positivity for both intra and extracellular mucin. Diagnosis of Adenosquamous carcinoma was made. Upper lobe of left lung also showed a neoplastic focus. Right lung showed only bronchopneumonic changes. Metastasis was evident in the left hilar lymph nodes and sternum. Other organs showed only congestion.

Discussion

Lung tumors with mixed histologic pattern are rare. They present a more aggressive clinicopathologic behaviour and reduced survival rate as compared to the single histologic population of resected lung tumors [4]. They differ in their response to various treatments, hence the pathological distinction between different types of lung carcinoma is of therapeutic importance and the idea of lung carcinoma as a single disease entity is not helpful from a clinical point of view [6].

ASC of lung is an aggressive tumor that grows rapidly [2]. It represents about 3.5% of resected lung tumors [3]. Arora et al [7] however found its incidence to be 1% in their study of 100 cases of Bronchogenic carcinoma related to clinicopathological pattern in south Indian population. The biological behaviour and clinicopathologic characteristics of this tumor have not been well described [4]. Clinically and macroscopically it resembles adenocarcinoma of lung [6]. The most frequent symptoms are chest pain and cough. It is shown to be characteristically a solid, lobulated nodule or mass [4]. More frequently peripheral and may contain a central scar. Microscopically, both adenocarcinomatous and squamous components are present with equal proportion or one of them being dominant. The two components may be separate and discrete or they may merge and mingle. The degree of differentiation of the two components can be of any combination of well, moderate and poorly differentiation. Ultrastructurally, features are similar to that for squamous carcinoma and adenocarcinoma individually. Immunohistochemically, it is generally positive for Keratin, CEA and EMA [8].

ASC of lung should be differentiated from squamous carcinoma, Adenocarcinoma with metaplastic squamous epithelial changes and high grade mucoepidermoid carcinoma. Carcinomas of the lung may infiltrate into the airspaces and surround small acinar structures which may be misinterpreted as adenocarcinomatous differentiation and lead to an overdiagnosis of ASC. Similarly, adenocarcinoma may be associated with squamous metaplasia in areas of necrosis, inflammation or scarring. High grade mucoepidermoid carcinoma should be differentiated from poorly differentiated ASCs. According to the criteria outlined by Yousem and Hochholzer, the former one is an exophytic tumor in the proximal bronchial tree, is composed of a random mixture of sheet like and glandular cells present as scattered goblet cells rather than tubular, acinar, papillary patterns, lacking individual cell keratinization and squamous pearl formation and shows areas of low grade differentiation [8].

ASCs of lung are sufficiently rare that the number studied is limited [8]. Studies in the literature have shown poor prognosis of ASC of lung as compared to adenocarcinoma and squamous cell carcinoma [1-2, 8]. The histologic subtype was found to be an independent unfavourable prognostic determinant [8]. Background factors most closely associated with survival rate were gender and degree of nodal involvement, as observed by Shimizu J et al [2]. The tumor most commonly metastasises to lymph nodes, brain, liver and adrenal glands [3]. Our case showed rapid deterioration of the clinical course with metastasis to lymph nodes and bone. Identification of the tumor ASC, is important since its prognosis is worse than that of either squamous cell carcinoma or adenocarcinoma. The present case is reported for its rarity and aggressive nature.

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