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Case Report

An expansive mass lesion on chest wall: Squamous cell lung carcinoma

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Abstract

Invasion of the chest wall by lung cancer is a rare condition. In the following report, we presented a case of squamous cell lung carcinoma causing an expansive mass lesion on chest wall.

Keywords: Lung cancer, Chest wall, Invasion, Carcinoma, Squamous cell.

INTRODUCTION

Chest wall invasion due to lung cancer is an uncommon challenge and represents only about 3-5% of all patients resected for lung cancer (Stoelben and Ludwig, 2009; Van de Wal HJ, et al., 1985). Here we reported a 34-year old man presented with a sternal mass and diagnosed as squamous cell lung carcinoma.

Case Report

34-years old male patient was admitted to emergency service with complaints of right sided chest pain, cough and hemoptysis that approximately existed for a year. He had 25 packet/year smoking history. In physical examination; an expansive mass lesion on sternum was observed (Figure 1), decreased breath sounds and dullness was detected in the right lung. Postero-anterior (PA) Chest Radiography showed total opacity in the right lung (Figure 2). 5x6cm sized, lytic appearance mass lesion in the lower part of sternum, minimal pericardial effusion, mediastinal lymph adenopaties, right-sided massive pleural effusion and parenchymal cavitary lesion was observed in Thorax CT (Figure 3). Sputum ARB and Mycobacterium Cultures were negative for three times. Microbiological and sitological analysis was performed by USG-guided fine needle aspiration from the mass lesion on sternum. In Fiberoptic Bronchoscopy (FOB); white-coloured, necrotic appearance endobronchial lesion (EBL) was observed at the entry of right upper lobe (Figure 4) and several biopsies were taken from the lesion. Pathological diagnosis of biopsies was reported as squamous cell lung carcinoma. Adrenal metastasis was detected in Abdomen CT. The patient didn't accept advanced treatment and we learned that the he died on

Figure 1. An expansive mass lesion on sternum.

Figure 2. PA Graphy showing total opacity in the right lung.

Figure 3. Thorax CT image of the lytic sternal mass lesion and right-sided massive pleural effusion.

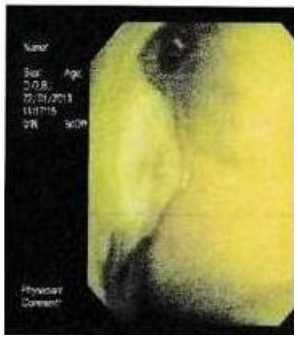

Figure 4. Bronchoscopic view of EBL at the entry of right upper lobe.

the fifteenth day of discharge.

DISCUSSION

Thorax CT or USG are recommended to evaluate the chest wall invasion of lung cancer. In a study by Suzuki et al. the accuracies of CT and US for determining tumoral invasion of the chest wall in lung cancer were compared in 120 patients and it was found that 19 patients had tumoral chest wall invasion. The sensitivity of US was 100% and the specificity was 98%. The sensitivity of CT was 68% and the specificity was 66%. The accuracy of US and CT were 98% and 67%, respectively (Suzuki et al., 1993). In our case invasion of the chest wall is confirmed by both Thorax US and CT so invasion and destruction of sternum by the tumor was well defined.

Although pulmonary resection is the preferred treatment for patients with lung cancer, 50% of all patients have signs of inoperability at the time of diagnosis (Pairolero, 1999). Complete resection offers a significant chance for long-term survival in lung cancer directly extending into parietal pleura and chest wall. En bloc chest wall resection or extrapleural resection can be performed with a low operative mortality and an expected 5 year survival in excess of 50% in the absence of lymphatic metastases (McCaughan et al., 1985). Chest wall involvement without lymph node invasion does not influence the survival unfavourably in lung cancer cases (Van de Wal HJ, et al., 1985). Unfortunately, the prognosis of patients with chest wall invasion and mediastinal lymph node metastasis is worse (Stoelben and Ludwig, 2009). The survival of our patient was poor because of both multiple mediastinal lymph adenopathies and chest wall invasion in addition to distant organ metastasis.

For localized, stages I and II non-small cell carcinomas (NSCLC) surgery is the treatment of choice because these lesions usually can be excised completely. Occasionally, stage III disease may present borderline cases for surgery. The presence of distant or extra thoracic metastasis is indicative of inoperability and a surgical procedure is an absolute contra-indication (Branscheid, 1997). Our case was inoperable because of stage IV NCSLC diagnosis with systemic metastasis.

CONCLUSION

Chest wall invasion by lung cancer can be accurately evaluated by CT or US of Thorax. Operability, prognosis and survival of lung cancers with chest wall invasion depends on the stage of the cancer.

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