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SUCCESPUL SURGICAL TREATMENT OF PRIMARY MALIGNANT NEURILEMNOMA OF LUNG

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ABSTRACT: Üstekin OTO, Hasan BAKIR, Dokuz Eylül University Faculty of Medicine and Sedat Danış KAMALI, Dündar NARBAY, Enver DURAN, Bingür SÖNMEZ, Gülhane Medical Academy and School of Medicine.

Neurogenic tumors of lung are quite unusual among the malignant lesions of respiratory system. To our knowledge, only one case of malignant neurilemnoma has been reported among the 56 cases of intrathoracic neurogenic tumors, up to date. At this paper, we reported a malignant neurilemnoma (schwannoma) case of lung who was treated succesfully by only excision of uncapsulated tumor without extensive resection.

Key words: Malignant Neurolemnoma, Neurogenic tumors, Pulmonary neurilemnoma, Schwannoma

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INTRODUCTION: Neurogenic tumors of lung are the most uncommon tumors of lung tissue(1). Neurogenic tumors of the hegthoracic cavity usually occur outside the lungs in the posterior mediastinum(6). The first case of neurofibromatosis in lung was published by Bartley et al in 1940(1). Since then 56 cases of neurogenic pulmonary tumors have been reported in the literature[3,5,7,8,9,10]. 75% of these neurogenic tumor cases were proven to be malignant neurolemnoma of lung which also involved the heart[2]. Besides the extreme rarity of this type of lung tumor, our excellent result that was provided by only enuclation of the mass promted us to describe this case of malignant pulmonary neurilemnoma. We recommend to avoid extensive resections while a strict surgical approach has been described for this type of malignant lung tumor up to date.

CASE REPORT: A 30 years old male caucassion was admitted to the hospital for evaluation of dry cough and pain on the left side of his chest. Physical examination and routine laboratory data were normal. Postero-

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anterior and lateral chest films revealed a 8x8cm rounded mass in the apicoposterior segment of upper left lobe (Figure 1,2). The tomograms confirmed a well defined mass with smotth margins and no sign of rib destruction(Figure 3). Bronchoscopy revealed a normal macroscopic appearence on both sides except some mucosal hyperemia in the left upper lobe bronchus. Cytologic examination of the bronchial wash showed no malignant cell.

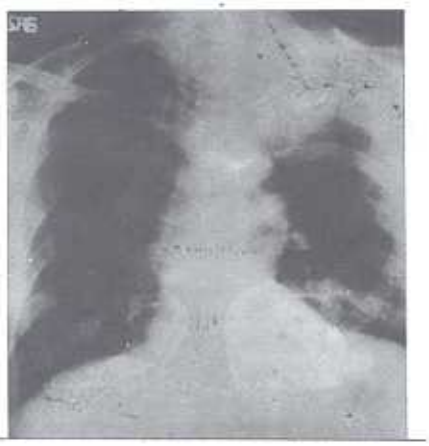

Figure 1. PA Chest X Ray of the patient

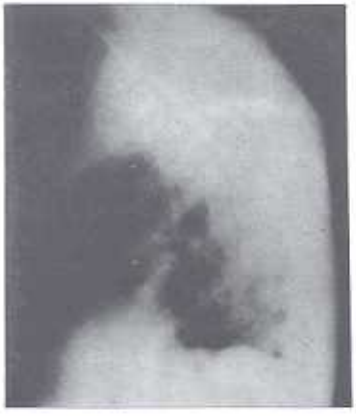

Figure 2. Lateral chest X Ray of the patient

Figure 3. Tomography of the chest

A left thoractomy was carried out and a well demarcated 8x8x8cm tumor arising from apicoposterior segment of the upper lobe was found. The mass was enuclated from the surrounding pulmonary paranchyma that seemed us healty. There was no invasion of chest wall. Since frozen section of the tumor showed neurilemnoma of lung and no sign of invasion or malignancy was detected peroperatively further resection of lung tissue was not performed

The specimen was a solid, circumscribed mass measuring 8cm in diameter. Gross examination of section surface showed myxoid areas alternating with more solid gray-yellow parts. Histopathologic examination that was repeated on the forth post operative day in a routine manner showed that the tumor was malignant neurilemmoma of lung despite the previous frozen section. It was composed of spindle shaped hyperchromatic cells and there were frequent mitosis, especially in the cellular areas. In some fields, perivascular edema and hyalinisation were noted. At the periphery of the tumor very small amounts of lung paranchyma were seen. There were no heterotopic elements in the tumor (Figure 4.5).

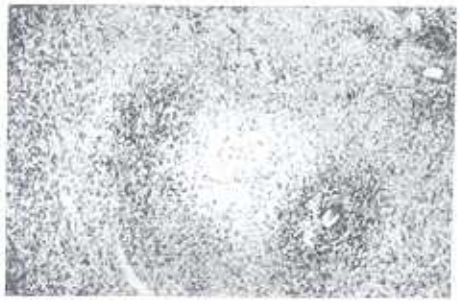

Figure 4. Pathological appearences of the tumour

Figure 5. Pathological appereances of the tumour

Considering well encapsulated and noninvasive appearence of the tumor peroperatively we did not reperate the patient for any extensive resection procedure, after we had learnt this histopathologic result. The patient was given 40 Gıys radiotherapy and has been sympotom free and radiologically normal for 3 years (Figure 6).

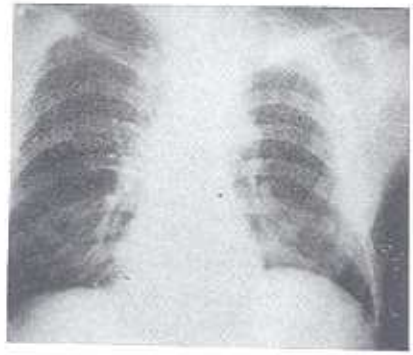

Figure 6. Post operative PA chest X Ray of the patient

DISCUSSION: Neurogenic tumors are very rare pulmonary neoplasm (11). They arise from the autonomic nerve bundles of the blood vessels and are derived from the cell of Schwann's sheath (7,11). WHO classifications of Soft Tissue Tumors (1969) subdevides the benign tumors arising from peripheral nerves into traumatic neuroma neurilemnoma (Schwannoma), neurofibroma and neurofibromato is (Von Recklinghausen's disease) (4).

Thoracic neural tumors occur most commonly in the posterior mediastinum(3). At the study of Davidson et al, among 55 intrathoracic neural tumors only three (5%) were located outside the posterior mediastinum. Furthermcre, they suggested that an anteriorly neural tumor may have higher incidence of malignancy (aproximately 10 to 15%) (3,8).

Most of the patients were asymptomatic and sometimes detected during rutine X-ray examination of chest. When symptoms de appear, they are uncharcteristic like a dry cough or pleuritic pain in peripheral localisation(7). In principle, all age group can be affected. The youngest patient was 2 years old and the oldest one was 63 years old (7,10). Neurilemnomas seem to occur predominantly in woman, whereas neurofibromas show an almost aqual distrubition in both sexes.

Unfortunately, there is no specific radiographic criteria for the tumors of the lung. Conventional films, tomography and fluoroscopy have been employed with variable success while computerized axinal tomography is being an excellent method to evaluated these lesions(8). Needle aspiration techriques may help but final diagnosis usually depends on oper biopsy.

Because of the extreme rarity of malignant pulmonary neurilemnoma, need of extensive surgical therapy has not been well defined. Thus, benign like appearence of the tumor encouraged us not to prefere extensive resection of lung. Symptom free and radiologically normal 3 years that passed after the operation supported our policy of limited resection.

In conclusion, neurogenic tumors of the lung are known as uncommon tumors. As far as we concern only one case of malignant pulmonary neurilemnoma (Schwannoma) has been reported in the English literature(2). We recommend excision of the mass without extensive resection of lung tissue and postoperative radiotherapy in the treatment of this type of malignant lung tumor.

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