

Cavitated tumor as a clinical subentity in squamous cell lung cancer patients

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Cavity in lung cancer patients is usually attributed to worse prognosis, which could be caused by diagnostic difficulties and late surgery. The aim of this study is to identify cavity as clinical subentity in squamous cell lung cancer (SqCLC) patients. 1094 patients with I⁰–III⁰ of SqCLC underwent surgery with the purpose of radical lobectomy or pneumonectomy. The patients were divided into two groups: 100 patients with cavity (cSqCLC) and 994 with solid tumor (sSqCLC). The clinical, histological and prognostic features were compared for the both groups. The Cox multivariate analysis of the prognostic factors was performed. The survival curves for both groups were compared. cSqCLC patients showed lower body mass and more frequent hemoptoe. They had larger tumors, located peripherally, rarer nodal involvement and atelectasis. Despite the similar cancer stage and the exploratory thoracotomies ratio, cSqCLC patients lived shorter. The survival curves for both groups were different: in all population, for patients after radical surgery and even after exploratory thoracotomy. We conclude that the cavitation in SqCLC patients can be regarded as a separate subentity related to worse prognosis.

Key words: Lung cancer, squamous cell, surgery, survival, prognosis, cavitation.

The mechanism of cavity formation in lung cancer (LC) patients has remained unclear. Cavitation is believed to be a result of tumor ischemia or infection and necrosis with subsequent expectoration of necrotic masses by draining bronchus. There are also other mechanisms leading to cavitation: ectatic changes or alveolar expansion [9, 15, 29, 44, 45, 65, 70, 71]. Radiologically, cavity with fluid level is often regarded as lung abscess [4, 15, 16, 22, 44, 65, 69].

Until World War II only a few case reports, without a deeper insight into this problem, had been published [68]. In the 1950s this issue was under discussion due to the necessity of distinguishing cavitory tuberculosis and lung abscess [17, 53, 58]. The following possibilities were taken into account:

I. Growth of secondary cancer in posttuberculous cavity lung cyst

II. Cavity or abscess formation in primary lung cancer.

Among patients with lung abscess, diagnosed radiologically, those with LC accounted for 8–52% [15, 17, 53, 69]. 10% of the patients who had lung abscess diagnosed clinically

showed LC at autopsy [22, 59]. The worse prognosis for patients with cavity lung cancer (cLC) was attributed to late surgery caused by diagnostic difficulties.

Not until 1966 did MOURoux et al [48] try to identify any clinical, histological and prognostic features confirming cLC as a separate entity specific to cavitated bronchopulmonary tumors. Unfortunately Mouroux based his study on a small group of patients (35 cLC vs 318 solid, sLC) and did not succeed due to non-homogenous material (all cancer types, stages and methods of treatment).

We have not found any further studies on this subject in the literature. Our study is based on histologically pure group of squamous cell lung cancer (SqCLC) patients, treated surgically (I⁰–III⁰). These patients account for about a half of those operated on for LC. Cavity is quite common in SqCLC patients (cSqCLC) [9, 15, 22, 29, 37, 44, 48, 62]. We compared clinical and radiological features for the patients with cavity and those with solid SqCLC (sSqCLC). We decided to examine whether the worse prognosis in cSqCLC group could be attributed only to diagnostic difficulties or caused by more aggressive clinical course.

Preoperative radio- and chemotherapy [43] are not

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