

Tumor Spread through air spaces(STAS) in lung cancers

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Despite improvements in early detection and treatment, lung cancer remains the most common malignant tumor with the highest incidence and mortality worldwide. Lung cancer invasion, such as lymphovascular or pleural invasion and infiltration of stroma, is generally associated with a poor prognosis. The presence of tumor cells in air spaces is regarded as a manifestation of the invasiveness of lung cancer.

In 2015, the World Health Organization classification of lung cancer proposed the concept of spread through air spaces (STAS) as a new pattern of invasion in lung adenocarcinoma. The definition of STAS included one or more pathologic micropapillary clusters, solid nests or single cells beyond the edge of the tumor into air spaces in the surrounding lung parenchyma, and separation from the main tumor other than tumor islands. The role of STAS has been investigated in many studies. However, there are high debate on tumor STAS. In this presentation, I will introduce our study results based on the prospectively collected data and discuss its biological impact. In addition, 3D modeling of tumor STAS in lung cancer will be introduced. The results indicated that STAS is associated with key pathologic parameters and the clinical outcome of patients both in lung cancer.