A Prospective Cohort Study on Risk Factors for Postoperative Cough in Patients Undergoing Thoracoscopic Lung Resection

Study Protocol

2024-2-1

Study design

This study is a prospective observational study and is expected to be carried out in a large tertiary hospital. According to the data of previous years, more than 300 patients underwent thoracoscopic lung resection in our center every year, and the incidence of cough after pneumonectomy was 21.1%-55.8%, and this cohort is expected to include 1000 participants for three years.

Patients with pulmonary nodules on chest CT will be divided into two groups based on the presence or absence of cough symptoms on admission. The investigators decided whether to include patients in this cohort study strictly based on the inclusion and exclusion criteria. The severity of cough, the trajectory of cough change, and the physiological and social burden caused by cough will be reflected by the results of LCQ-MC, CSS, HARQ, and VAS. The included variables included age, gender, BMI, education level, smoking history, alcohol history, preoperative lung function, nodule size, preoperative and postoperative blood routine (such as white blood cell count, neutrophil count, etc.), blood biochemistry (such as C-reactive protein, PCT, etc.), liver and kidney function test results, surgical method, surgical site, operation duration, anesthesia method, anesthesia duration, lymph node dissection, pathological results, chest tube caliber, number of days of catheterization, use of cough drugs, use of non-steroidal anti-inflammatory drugs, Number of days in hospital and number of outpatient visits due to cough.

Study Population

The participants in this study are from the 920th Hospital. Patients aged 18 years

or older and less than or equal to 70 years of age who underwent surgery with video-assisted thoracoscopic pneumonectomy will be included. The exclusion criteria include: 1. Pre-existing cough before surgery (e.g. asthma, taking ACEI Drugs, etc.); 2. Distant metastasis of tumor; 3. Combined pregnancy or breastfeeding; 4. Combined with other systemic major diseases (such as malignant swelling, chronic liver insufficiency, chronic renal insufficiency, etc.); 5. Suffering from mental illness; 6. Refusal of follow-up or incomplete clinical information; 7. Poor compliance and other groups considered by the investigator not suitable for inclusion. All included patients have to sign an informed consent form and provide demographic information and clinical data.

Observation Parameters and Schedule

Follow-up content	Follow-up time points							
	Baseline	3 days	7 days	11 days	15 days	30 days	90 days	180 days
LCQ-MC	○	○				○	○	○
CSS	○	○	○		○	○	○	○
HARQ	○	○				○	○	○
VAS	○	○	○	○	○	○	○	○
CT of the chest	○	○				○	○	
Number of clinic visits			○	○	○	○	○	○

Cough medication use	○	○	○	○	○	○	○	○

Objectives and outcomes

This prospective cohort study will describe the incidence of CAP and the trajectory change in cough severity in patients with thoracoscopic lung resection. The primary objective of the study is to explore the risk factors for the development of CAP and to assess the physical, psychological, social, and life burdens of patients with CAP. The secondary objective is to see if the use of nonsteroidal drugs has an effect on the development of CAP. This study aims to provide preliminary evidence and guidance on appropriate treatment of post-pneumonectomy cough and risk factors for persistent cough and non-steroidal pharmacotherapy for CAP.