Taipei Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation

Title:

Comprehensive Research on Jing-Si-Herbal-Tea in Respiratory System Diseases*

Keywords:

Jing-Si-Herbal-Tea, Chronic Obstructive Pulmonary Disease

Principal Investigator:

Chou-Chin Lan

Institution, e.g., Taipei Tzu Chi Hospital

Ethics Approval:

The study protocol was approved by the Ethics Committee of Taipei Tzu Chi Hospital

IRB Number: 10-XD-132

Date: 202301001

Purpose of the Study:

The study investigates the effects of Jing-Si-Herbal-Tea (JSHT), a traditional Chinese herbal tea containing eight ingredients, on respiratory system diseases, particularly Chronic Obstructive Pulmonary Disease (COPD). The herbal components in JSHT, such as Ophiopogon japonicus and Houttuynia cordata, are known for their anti-inflammatory, antioxidant, and lung-moistening properties, which may alleviate symptoms like cough, wheezing, and chest tightness in COPD patients.

Study Design:

This research includes both clinical and cellular studies to evaluate the effects of JSHT.

1. **Clinical Study:**
    - **Participants:** Patients with chronic stable respiratory diseases or those experiencing acute exacerbations.
    - **Groups:**
        - **COPDAE Group:** Patients with COPD acute exacerbation.
        - **Stable COPD Group:** Patients with stable COPD.
    - **Treatment:**
        - **Control Group:** Received standard treatment plus placebo.
        - **JSHT Group:** Received standard treatment plus JSHT.
    - **Outcomes:** Health-related quality of life (HRQL), pulmonary function tests (PFT), and various blood biomarkers were assessed before and after treatment.
2. **Cellular Study:**
    - **Objective:** To evaluate the anti-inflammatory effects of JSHT on A549 cells, a human lung carcinoma cell line.
    - **Experimental Groups:**
        - Control (untreated)
        - LPS-treated (to induce inflammation)
        - JSHT-treated
        - Pre-treatment with JSHT followed by LPS
        - Post-treatment with JSHT after LPS exposure
    - **Measured Parameters:**
        - Damage-Associated Molecular Patterns (DAMPs) like HMGB1, FPR1, and extracellular ATP.
        - Inflammatory markers including NF-κB, p-MAPK, p-JNK, and cytokines (IL-1, IL-6, IL-8, TNF-α).

- Apoptotic marker cCaspase-3.

Research Methods:

- **Clinical Evaluation:** Utilized the COPD Assessment Test (CAT), the Modified Medical Research Council (mMRC) scale, and the Brief Symptom Rating Scale (BSRS-5) to assess symptoms, dyspnea, and psychological distress.
- **Cellular Analysis:** Involved culturing A549 cells, treating them according to the experimental groups, and measuring protein levels using enzyme-linked immunosorbent assay (ELISA) and immunoblotting techniques.

Conclusion:

The study aims to establish the efficacy of JSHT in reducing inflammation and improving lung function in COPD patients, potentially offering an alternative or complementary treatment to conventional therapies. The cellular study further explores the molecular mechanisms underlying JSHT's therapeutic effects.