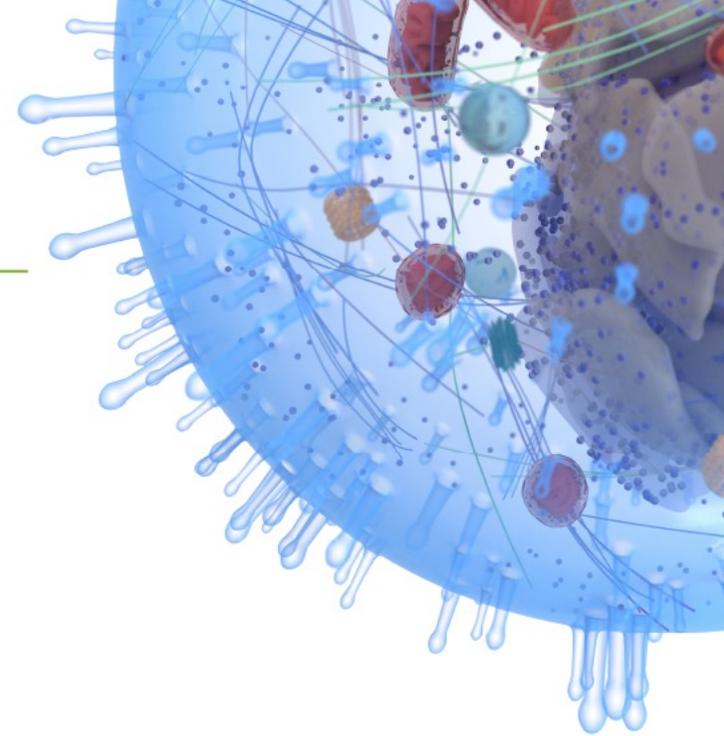


Preventive effect of NADH in a COPD animal model

Nada SLAMA¹, Amina ABDELLATIF²,
Karima BAHRIA³, George BIRKMAYER⁴,
Mustapha OUMOUNA⁵, Karine
BENACHOUR⁶



Introduction

Chronic obstructive pulmonary disease (COPD) is a common chronic respiratory disease characterized by persistent respiratory symptoms and progressive airflow obstruction. It is associated with an abnormal inflammatory response of the lungs to noxious particles or gases.

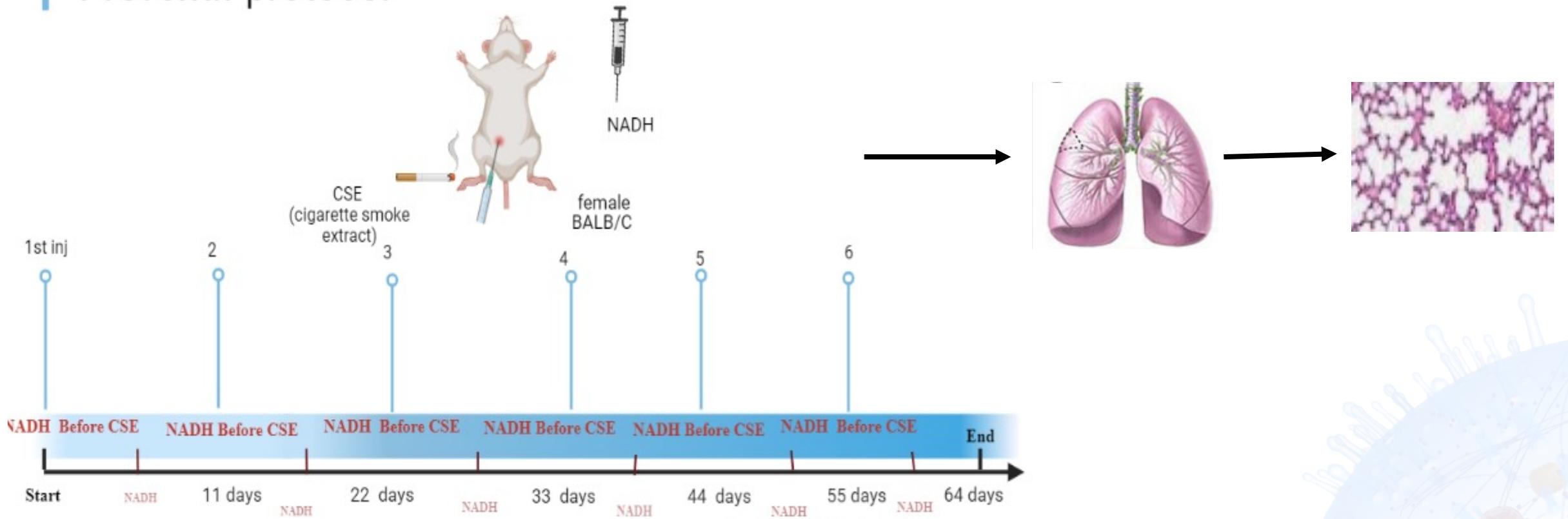
COPD affects 400 million individuals and is already the third leading cause of death worldwide. Disturbances in mitochondrial structure and function in lung epithelial cells have been implicated in the pathogenesis of chronic obstructive pulmonary disease (COPD).

Reduced Nicotinamide adenine dinucleotide or NADH is a central metabolic coenzyme in cellular energy metabolism and energy production in mitochondria, Involved in calcium homeostasis, aging, and cell death, its biological action in preventing several neurological and cardiovascular disorders as well as cancer and inflammation has shed light on its possible protective function through its antioxidant as well as its anti-inflammatory mechanisms.

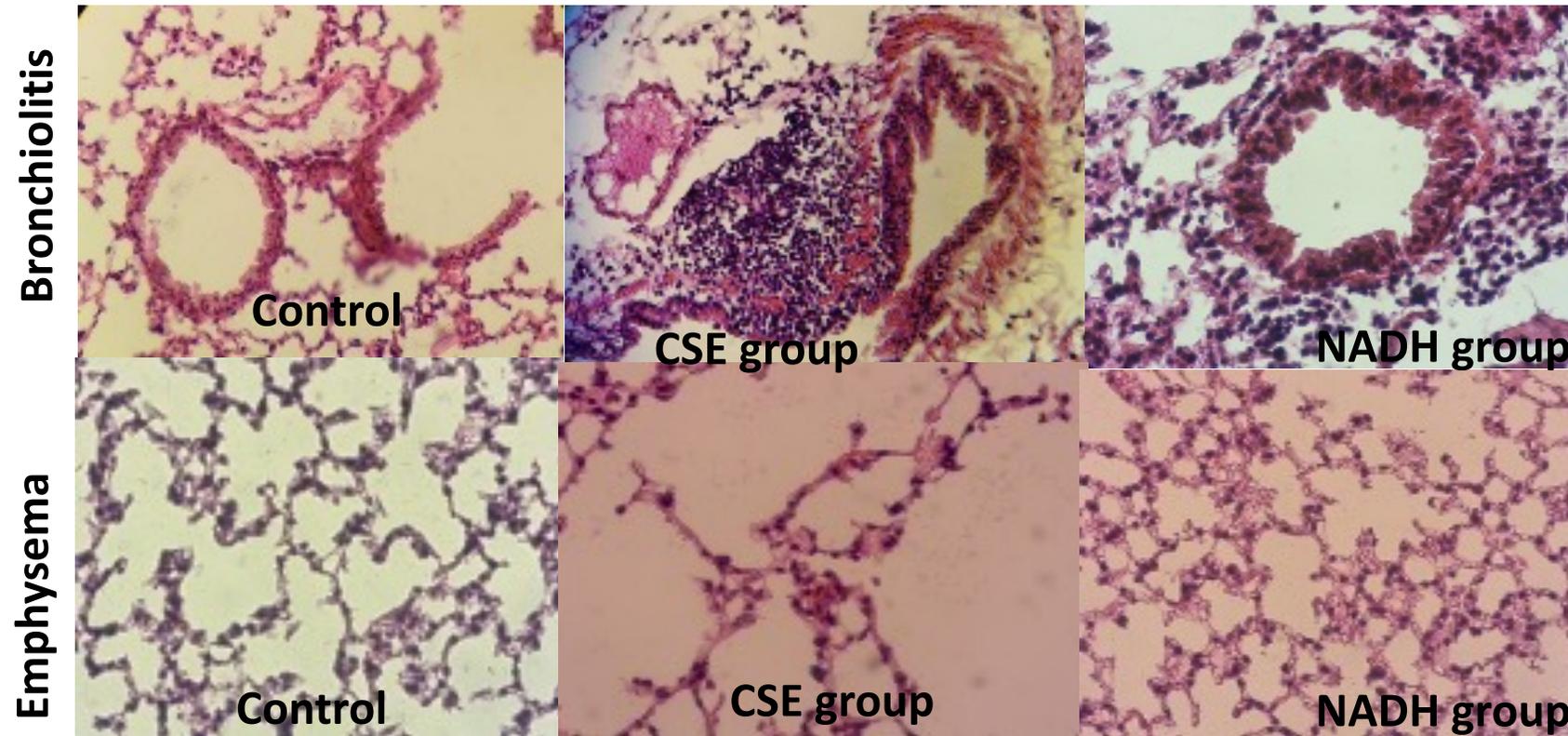
The aim of this study is to explore the preventive efficiency of NADH on an experimental model of a cigarette smoke extract –induced COPD

Materials and methods

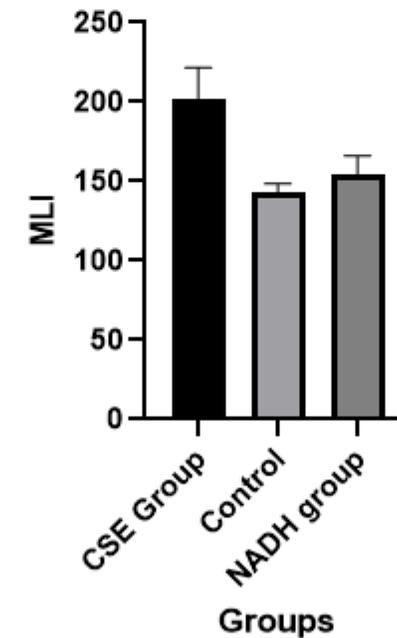
Preventif protocol



Results



P value =0,0004
morphometric measurements of MLI



Effects of NADH on COPD animal model, Representative photomicrographs of the lung H&E histological sections, To estimate the extent of lung destruction in mice, Lm (B), thickness of bronchioles (C), the lungs were immersed in 10% neutral formalin for 48 H. After tissues were paraffinized, 5 um sections were prepared and stained with hematoxylin-eosin for observation of emphysema change and bronchiolitis .

Conclusion

The present study demonstrated the protective effect of NADH on CSE -induced COPD by reducing inflammatory response and oxidative stress . The mechanism by which this protection occurs is poorly understood , More research is required to tackle how can NADH protect and reduce COPD development

