Differential expression of heme oxygenase (HO)-1 in macrophages of lung tumour and tumour-free lung tissues

P. Boschetto, E. Zeni, L. Mazzetti, P. Maestrelli, E. Marian, B. Murer, P. Querzoli, D. Miotto, G. Rossi, L. M. Fabbri, C. E. Mapp (Ferrara, Padova, Mestre, Modena, Italy)

Source: Annual Congress 2004 - Lung development and cancer
Session: Lung development and cancer (/lr/showParent/?idP=15517)
Session type: Oral Presentation
Number: 163
Disease area: Airway diseases

(/lr/show-media/?id=16914) (/lr/show-media/?id=16915)

Abstract

Reactive oxygen species (ROS) are important in the initiation and promotion of cells to neoplastic growth. Cigarette smoke exposure, the primary risk factor in lung cancer development, leads to high levels of ROS in the human airways. Heme oxygenase (HO)-1, the inducible isoform of heme oxygenase, has been implicated in the defence mechanism against ROS-mediated cellular injury. We studied its expression in the macrophages of paired samples of lung tumour and tumour-free lung tissues collected from 21 individuals with surgical resectable non-small cell lung cancer. Paraffin-embedded sections of surgical lung

Related content which might interest you:

Significant correlation between interleukin-10 expression and progression of non-small cell lung cancer through heme oxygenase
Source: Eur Respir J 2005; 26: Suppl. 49, 92s
Year: 2005

Decreased expression of haem oxygenase-1 by alveolar macrophages in idiopathic pulmonary fibrosis
Source: Eur Respir J 2008; 31: 1030-1036
Year: 2008

Gene expression profile in lung adenocarcinoma and non-cancerous lung tissue
Source: Eur Respir J 2005; 26: Suppl. 49, 456s
Year: 2005

Low levels of heme oxygenase-1 in induced sputum of lung cancer patients as a marker of defective cytoprotection
Source: Annual Congress 2012 - New biomarkers for lung cancer
Year: 2012

Expression of the acute phase protein haptoglobin in human lung cancer and tumor-free lung tissues
Source: Annual Congress 2009 - Pathogenesis of lung cancer
Year: 2009

Haem oxygenase-1 expression is diminished in alveolar macrophages of patients with COPD
Source: Eur Respir J 2004; 23: 652-653
Year: 2004

specimens were immunostained with antibodies against HO-1. The number of macrophages per high power field was increased in tumour compared with tumour-free lung tissues: median (interquartile range): 17 (10.9-20.7) vs 10.3 (7.6-14.6), p = 0.01. The percentage of HO-1 positive macrophages was significantly lower in tumour than in tumour-free lung tissues [46.7 (14.3-70.1) vs 73.1 (61-87.5), p = 0.01]. The percentage of HO-1 positive macrophages of tumour-free lung showed a negative correlation with the age at which subjects started to smoke (p < 0.03, r = -0.51). These results suggest that lung cancer tissue exhibits impaired anti-oxidant defence mechanism mediated by HO-1 in infiltrating macrophages.

Supported by: MURST, ASTMP, Consorzio Ferrara Ricerche

Rating:

You must login (/membership/login) to grade this presentation.

Share or cite this content

Citations should be made in the following way:
P. Boschetto, E. Zeni, L. Mazzetti, P. Maestrelli, E. Marian, B. Murer, P. Querzoli, D. Miotto, G. Rossi, L. M. Fabbri, C. E. Mapp (Ferrara, Padova, Mestre, Modena, Italy). Differential expression of heme oxygenase (HO)-1 in macrophages of lung tumour and tumour-free lung tissues. Eur Respir J 2004; 24: Suppl. 48, 163

You must login (/membership/login) to share this Presentation/Article on Twitter, Facebook, LinkedIn or by email.

Member's Comments

No comment yet.

You must Login (/membership/login) to comment this presentation.

Inhibition of heme oxygenase-1 enhances chemosensitivity of cisplatin in lung cancer cells
Source: Eur Respir J 2006; 28: Suppl. 50, 336s
Year: 2006

Cell-specific expression of peroxiredoxins in human lung and pulmonary sarcoidosis
Source: Eur Respir J 2001; 18: Suppl. 33, 76s
Year: 2001

Assessment of lipid peroxidation and antioxidant capacity in pulmonary parenchyma and lung cancer tissue in non-small cell lung cancer
Source: Eur Respir J 2004; 24: Suppl. 48, 79s
Year: 2004

Impaired haem oxygenase-1 expression in sputum macrophages of COPD patients
Source: Eur Respir J 2006; 28: Suppl. 50, 748s
Year: 2006

Serum haem oxygenase-1 as marker of lung function in patients with chronic silicosis
Source: Annual Congress 2009 - Old and new topics in environmental and occupational lung disease
Year: 2009

Expression of protein onkological marker *onkoprobe* in peripheral blood in cases of tracheal invasion and lung metastases of thyroid carcinoma
Source: Eur Respir J 2002; 20: Suppl. 38, 466s
Year: 2002

Influence of irradiation on the activity of antioxidant enzymes in lung tissue and lung cancer cells, in different stages of histological maturity
Source: Eur Respir J 2001; 18: Suppl. 33, 78s
Year: 2001