



Title	Promotor hypermethylation of the CpG Islands of human Ras Association Domain Family 1A gene (RASSF1A) in adenocarcinoma of lung in Hong Kong Chinese - a comparison between smokers and non-smokers
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C-R-3

The Importance of COPD in Affecting the Outcomes of Cardiac Rehabilitation

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Introduction: To determine if COPD can adversely affect the outcomes in cardiac rehabilitation.

Method: A retrospective study on the outcomes of COPD patients participated in cardiac rehabilitation program at Tung Wah Hospital from 1994-1999 and compared with age, sex and cardiac function matched controls.

Results: 24 COPD patients (21 male 3 female) with a mean age of 68.8 and 22 non-COPD patients (19 male 3 female) with a mean age of 66.4 were included. Their LV ejection fraction (51% vs. 63%) was similar with majority (70%) post-AMI with PTCA performed in 12/14 in the respective groups. COPD patients had smoking history and airflow obstruction confirmed by lung function tests (mean FEV₁ 1.42 L, FVC 2.41 L, FEV₁/FVC 59%). Hospitalization over a 2 year period was 2.38 in COPD group and 2.0 in the control group. The mean hospitalization days were 12.3 and 5.0 respectively. There were 2 death (both pulmonary related) in COPD group but none in the control. COPD patients had significantly lower exercise capacity in all phases as shown by the 6-minute walking test (6 MWT) and treadmill exercise test. 6 MWT distance (337/425 in phase I, 381/443 in phase II, 357/472 in phase III and 336/442 in phase IV) and METS achieved in treadmill (I: 3.3/5.0, II: 5.5/7.8, III: 4.9/6.7, IV: 3.9/6.5) were significantly lower in COPD patients ($p < 0.05$). All the 3 ADL dependent non-COPD patients gained independence after rehabilitation as compared with 2/4 (50%) COPD patients.

Conclusions: (1) COPD patients had poorer outcome in cardiac rehabilitation when compared with age, sex and cardiac function matched control with a higher re-hospitalization rate, total hospital days and mortality (2) COPD patients had lower exercise capacity in all phases of cardiac rehabilitation (3) More COPD patients remained ADL dependent after cardiac rehabilitation than non-COPD patients.

C-RC-1

Promotor Hypermethylation of the CpG Islands of Human Ras Association Domain Family 1A Gene (RASSF1A) in Adenocarcinoma of Lung in Hong Kong Chinese - A Comparison Between Smokers and Non-Smokers

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Introduction: Loss of genetic material from chromosome 3p21 is a common phenomenon in lung cancer. The RASSF1A gene, located on this region, is a tumour suppressor gene proposed to play a role in lung carcinogenesis. Methylation of CpG islands of promotor regions of this RASSF1A gene could be one of the mechanisms in the inactivation of this gene. The aim of this study is to detect the presence of hypermethylation from primary adenocarcinoma and the correlation of such changes with clinico-pathological characteristics especially smoking history.

Methods: DNA isolated from surgically-resected adenocarcinoma of lung was subjected to bisulphite modification, followed by polymerase chain reaction (PCR) with primers ML730, ML561 and MU379. The PCR products were sequenced on an ABI 377 automated DNA sequencer to determine the methylation status.

Results: We have performed analysis on 52 cases, including 24 smokers and 28 non-smokers. Methylation were evidenced in 58% (14/24) of smokers and 29% (8/28) of non-smokers and the difference was statistically significant ($p=0.03$).

Conclusion: This result suggests that methylation in the promoter region of RASSF1A is more common in lung adenocarcinoma from smokers than non-smokers and methylation may play a contributory role in the pathogenesis of adenocarcinoma, especially in smokers.