

**THE ASSOCIATION OF TRANSFORMING GROWTH FACTOR - B 1 GENE POLYMORPHISMS AND THE SEVERITY OF LUNG FIBROSIS OF COAL WORKER'S PNEUMOCONIOSIS IN KEELUNG AREA**

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**BACKGROUND:** To analyze the correlation with TGF- $\beta$  1 gene polymorphisms and the severity of lung fibrosis of coal worker's pneumoconiosis(CWP), a case-control study.

**METHODS** A total of 221 coal workers with pneumoconiosis and 158 non-exposure control subjects to undergo TGF- $\beta$ 1 gene polymorphisms analysis. Genotypes for TGF- $\beta$ 1, G-800A, C-509T, C869T, G915C, were determined by polymerase chain reaction (PCR) and restrictive enzymes. The severity of CWP was classified by international lung organization (ILO) criteria.

**RESULTS:** There were no differences between the genotype and allele frequencies of promoter -800 and -509 , 869 and 915 in the pneumoconiosis and control populations. There was no statistically significant difference in genotype or allele frequency distribution between simple coal worker pneumoconiosis (SCWP), progressive massive fibrosis (PMF) and controls. All patients and controls (total n=379) were -800G and 915G genotype and none had -800A and 915C genotype. We noted inter-ethnic differences among these polymorphic sites by our population data.

**CONCLUSION:** TGF- $\beta$ 1 gene polymorphisms in -800, -509, +869 and +915 didn't predispose to the development of progressive massive fibrosis of pneumoconiosis.

**Key words:** transforming growth factor -  $\beta$  1, polymorphism, coal worker's pneumoconiosis