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Matrix metalloproteinase gene polymorphisms: lack of association with chronic obstructive pulmonary disease in a Brazilian population

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ABSTRACT. There are many candidate genes for chronic obstructive pulmonary disease (COPD). One such candidate is the group of genes that code for matrix metalloproteinases (MMPs), which play an essential role in tissue remodeling and repair associated with COPD. We tested the hypothesis that polymorphic variation in MMP genes influences the risk of developing COPD by examining functional polymorphisms in the promoters of MMP-3, MMP-9 and MMP-12 genes in 111 COPD patients and 101 controls. The -1171 5A/6A MMP-3, -1562 C/T MMP-9 and -82 A/G MMP-12 polymorphisms were analyzed by polymerase chain reaction, followed by restriction digestion. No significant differences were observed in allele and genotype frequencies between COPD patients and controls. Haplotype analysis also did not reveal differences between COPD patients and controls. We found that MMP polymorphisms had no

significant impact on the risk of developing COPD in this Brazilian sample.

Key words: Matrix metalloproteinases; Case-control studies; Single nucleotide polymorphism; Genetic predisposition to disease; Chronic obstructive pulmonary disease

