

## Polymorphism in Exon 2 of CD1a and CD1d Genes in Riyadh (Saudi Arabia) and its Association with Colon Cancer Disease

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CD1 molecules are MHC-like glycoproteins class I implicated in presenting different glycolipids to antigen specific T and NKT cells. Five genes have been identified CD1a, CD1b, CDc, CD1e and CD1d. Few polymorphic sites were reported in these genes and the functional polymorphisms were mapped in exon 2 encoding for the alpha 1 domain. The aim of this study was to investigate the distribution of exon 2 polymorphisms of CD1a and CD1d in Saudi population and their association with colon cancer disease (CC). Typing for the polymorphic sites was performed using PCR-SSP through a standardized protocol. Frequencies of CD1a \*01 and CD1a\*02 among healthy individuals were 42% and 89% respectively. Those of CD1d \*01 and CD1d\*02 were 100% and 45% respectively. These results show that frequencies of CD1a \*02 (89%) and CD1d \*01 (100%) are in the range of the almost reported frequencies worldwide. However, frequencies of CD1a \*01 and CD1d \*02 are quite larger than all reported frequencies until now. The frequency of CD1a \*02 was significantly less frequent in CC patients (58.6%) (OR = 0.17; CI = 0.079-0.38 and P < 0.0001). The homozygotes CD1a \*02/\*02 were also less frequent in CC patients (40%) than in controls (58%) (OR=0.48; CI = 0.25-0.89 and P = 0.028). The CD1d\*02 allele occurs less frequently in CC individuals (14%) compared to controls (OR=0.48; CI = 0.25-0.89 and P<0.00011). These results show potential protective effect of CD1a\*01 and CD1d \*02 gene against colon cancer disease in Saudi population.