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# THE COMPARISON OF THE INCIDENCE OF SOUTHERN CHINESE GLUCOSE-6-PHOSPHATE DEHYDROGENASE MUTATIONS IN SINGAPORE, HONG KONG AND TAIWAN

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Recently, the mutations of nucleotide 1388(G->A), 1376(G->T), 1024 (C->T), 493(A->G), 487(G->A), and 95(A->G) have been reported to account for approximately 80~90% of G6PD mutant alleles in Taiwan. Because the majority of the Singapore and Hong Kong populations are southern Chinese, we were interested in finding out the incidence of those southern Chinese G6PD mutations in Singapore and in Hong Kong. The peripheral blood of 177 male G6PD deficient Chinese patients and the cord blood screening samples of 214 male G6PD deficient Chinese neonates were collected and spotted on filter paper in Singapore and Hong Kong, respectively. The blood samples were air-dried and mailed to Veterans General Hospital-Taipei for analysis. For comparison, 217 dried blood neonatal screening samples of confirmed male G6PD deficient patients in Taiwan were collected and tested. A non-radioactive method analyzing the restriction fragments of DNA amplified directly from dried blood spot by polymerase chain reaction was used to detect the six southern Chinese G6PD mutations. We found the incidences of 1024 (2~5%) and 95 (7~9%) mutations in these three Chinese population were similar. The incidence of 1376 mutation in Singapore and in Taiwan were similar (~45%) and higher than that in Hong Kong (31%). There were apparent differences between the incidences of 1388 mutation in these three Chinese populations (16~32%). This may be caused by the higher proportion of Cantonese, who have higher incident rate of 1388 mutation, in Hong Kong and Singapore populations. The incidence of 487 mutation in Hong Kong and in Taiwan were similar (0.5%), but this mutation was not detected in Singapore. No 493 mutation was found in Singapore and Hong Kong , but 6.5% of the G6PD deficiency in Taiwan were caused by 493 mutation.