Thesis Title Blood Lipids and the Risk of Cerebral Infarction

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Degree Master of Science (Epidemiology)

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ABSTRACT

A hospital-based case-control study was undertaken at Prasat Neurological Hospital, Bangkok, in 1990 to determine the association between blood lipid variables (i.e., total cholesterol and triglyceride) and cerebral infarction. To alleviate the unwanted effects of a vast number of extraneous variables, an attempt on the restriction of sample selection was also made through a number of inclusion and exclusion criteria. A total of 193 newly diagnosed cerebral infarction cases together with an equal number of age- sex-matched controls, male and female 45 to 84 years of age, were investigated. The association was assessed by logistic regression analyses. Other potential risk factors for cerebral infarction were entered in the logistic models as covariates to be adjusted.

The results revealed that, both total cholesterol and triglyceride were univariately associated with cerebral infarction ($p < 0.0001$). After adjusting for the covariates through multivariate logistic regression analysis, total cholesterol remained significantly related to cerebral infarction ($p = 0.0430$) but triglyceride did not ($p = 0.3953$). Hypertension, cardiac impairment, diabetes mellitus and hemoglobin concentration were strongly related to cerebral infarction in both univariate and multivariate analyses.

The interaction among blood lipid variables and potential risk factors was also assessed. The finding indicated that there was a significant multiplicative interaction between triglyceride levels and diabetes mellitus status ($p = 0.0026$). Other interaction terms did not approach statistical significance.