



Service Priorities and Programmes Electronic Presentations

Convention ID: 1103

Submitting author: Miss Kin Sze WAN

Post title: Registered Nurse, Tseung Kwan O Hospital, KEC

The Relationship between Hypertension, Level of Serum Cholesterol and Intima-media Thickness of Common Carotid Artery

Wan KS(1)

Department of Medicine, Tseung Kwan O Hospital

Keywords:

Intima-media thickness

Common carotid artery

Carotid doppler

Hypertension

Hypercholesterolemia

Hypercholesterolemia

Introduction

Many studies have shown that risk of stroke was associated with intima-media thickness (IMT) of common carotid artery (CCA) while hypertension and hypercholesterolemia are the risk factors of developing cardiovascular and cerebrovascular diseases. Therefore, the objective of this study is to find out the relationship between IMT of CCA, blood pressure and serum cholesterol level.

Objectives

(1) To explore the relationship between hypertension, level of serum cholesterol and IMT of CCA by performing carotid doppler on healthy adult and patient with hypertension or hypercholesterolemia. (2) To review nursing practice in health education.

Methodology

64 subjects were recruited in the health campaign which was held for public on the open day of Tseung Kwan O Hospital on 1/11/2014. A brief questionnaire on medical history and several physical examinations including blood pressure, random serum cholesterol and IMT measuring were performed. Carotid doppler was done by experienced stroke advanced practice nurse and neurologist to assess the IMT of CCA. Quantitative intima media thickness measurement (QIMT) was the program used to detect the lumen-intima and media-adventitia interface of the vessel. Correlation test and logistic regression were used to find out the contributing factor for IMT of CCA.

Result

The mean of IMT of CCA in subjects with hypertension was significantly higher than the mean of IMT of CCA in normal subjects. ($p < 0.001$) IMT of CCA was shown positively correlated with age, systolic blood pressure (SBP) and diastolic blood pressure (DBP). The Pearson correlation coefficients for age, SBP and DBP were

0.412 ($p= 0.001$), 0.342 ($p= 0.006$) and 0.305 ($p= 0.014$). From this study, IMT of CCA was associated with blood pressure. Therefore, health education on controlling blood pressure should be reinforced to prevent vascular stenosis and cerebrovascular diseases. Nurses should be equipped about effective life style modifications and promote those measures to patients.