



Service Priorities and Programmes
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The Feasibility of Nurse-Led TCD Monitoring Service for Non-traumatic Subarachnoid Hemorrhage in Public Hospital

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Introduction

Cerebral Vasospasm was being recognized as a lethal complication of Subarachnoid Hemorrhage since its discovery. It causes delayed ischemic deficits and results in irreversible damage to the brain. The mortality rate can up to 20% if left untreated. The incident rates of SAH in Hong Kong is also increasing. In fact, cerebral vasospasm becomes extent predictable, preventable, and treatable with appropriate management. Transcranial Doppler sonography was introduced by Aaslid to assess the spasm in the intracranial conductive vessels. It allows repeated and noninvasive monitoring of the velocity of blood to investigate the decrease in diameter of the cerebral artery. However, TCD measurements vary widely depend on the operator. Studies showed that adequate training is necessary for operator to obtain the optimal result

In Hong Kong, the TCD service is limited in public hospitals to meet the frequent TCD monitoring requirement for patients. On the other hand, the service cannot be provided in non-official hours due to the manpower of the operators. Therefore, it is suggested that nursing staff can be trained to be the TCD operator in a short period of time in order to provide sufficient TCD monitor service in public hospital.

Objectives

To investigate the feasibility of the nurse-led TCD monitoring service in public hospitals in Hong Kong by investigating the observer variation between a expert with a untrained nurse on TCD examination

Methodology

The Observers included one Expert who was fully trained in the use of the TCD and one registered nurse (RN) who work in the neurosurgery unit for over 3 years and never had any training on ultrasonography.

The expert will briefly demonstrate how to operate the TCD machine and perform the TCD examination on the patient to the RN once. Then they will perform the examination separately on the same day and the same patient. The RN was blinded to the result of the NC and the history of the patient. The result will be compared and

the deviation can be calculated by using Cohen's kappa coefficient or Intra-class correlation coefficient.

Result

It showed strong agreement between the result of the Expert and RN. It is suggested that nurse can be easily trained for TCD monitoring. But further investigation is needed on the influence of ward environment to the result obtained in really situation.