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Department of Chemical Pathology

From: Prof CWK Lam
Hon Chief of Service
Department of Chemical Pathology

Tel/Fax No: 2632-3338 / 2636-5090

Date: 11 June 2003

To: All COSs,
All DOMs and Ward Managers
All Doctors
NTE Cluster Hospitals

NTE Cluster-Wide Quantitative Cardiac Troponin Service
Implementation Date: 23 June 2003

Please note that with effect from 23 June 2003, a NTE Cluster-wide quantitative cardiac troponin (cTnT) service will be introduced in our cluster.

As agreed by cardiologists in NTEC, plasma cTnT will replace serum creatine kinase MB (CKMB) as the first-line laboratory test for the biochemical diagnosis of acute coronary syndrome (ACS). Following the attached protocol, each patient suspected of ACS will be provided with at least one cTnT measurement during the current episode. If the first result is less than the acute myocardial infarct (AMI) cut-off, a second cTnT assay will be recommended with blood collected at 6-8 hours after the initial test. If the first result is equal to or greater than the AMI cut-off, then any second cTnT request will be unnecessary and will be declined.

CKMB will be reserved as a second-line test for the diagnosis and investigation of re-infarction. Prior consultation with the PWH Duty Biochemist to obtain an authorisation code is required.

A Biochemical Investigation Protocol for ACS is attached. Please note that there is a minor difference in the test arrangement for AHNH, NDH and other NTEC hospitals due to their locations from the PWH Chemical Pathology Laboratory, where cTnT is assayed. In case there is any clinical situation that has not been covered in the attached protocol, or if there is any enquiry on the forthcoming arrangements, please contact our Duty Biochemist at 2632-2685 or 2632-2331, or page through PWH Operator at 2632-2211 for discussion of any alternative arrangement.

You are most welcome to use our new service.

Sincerely,

Prof CWK Lam

Copy to:
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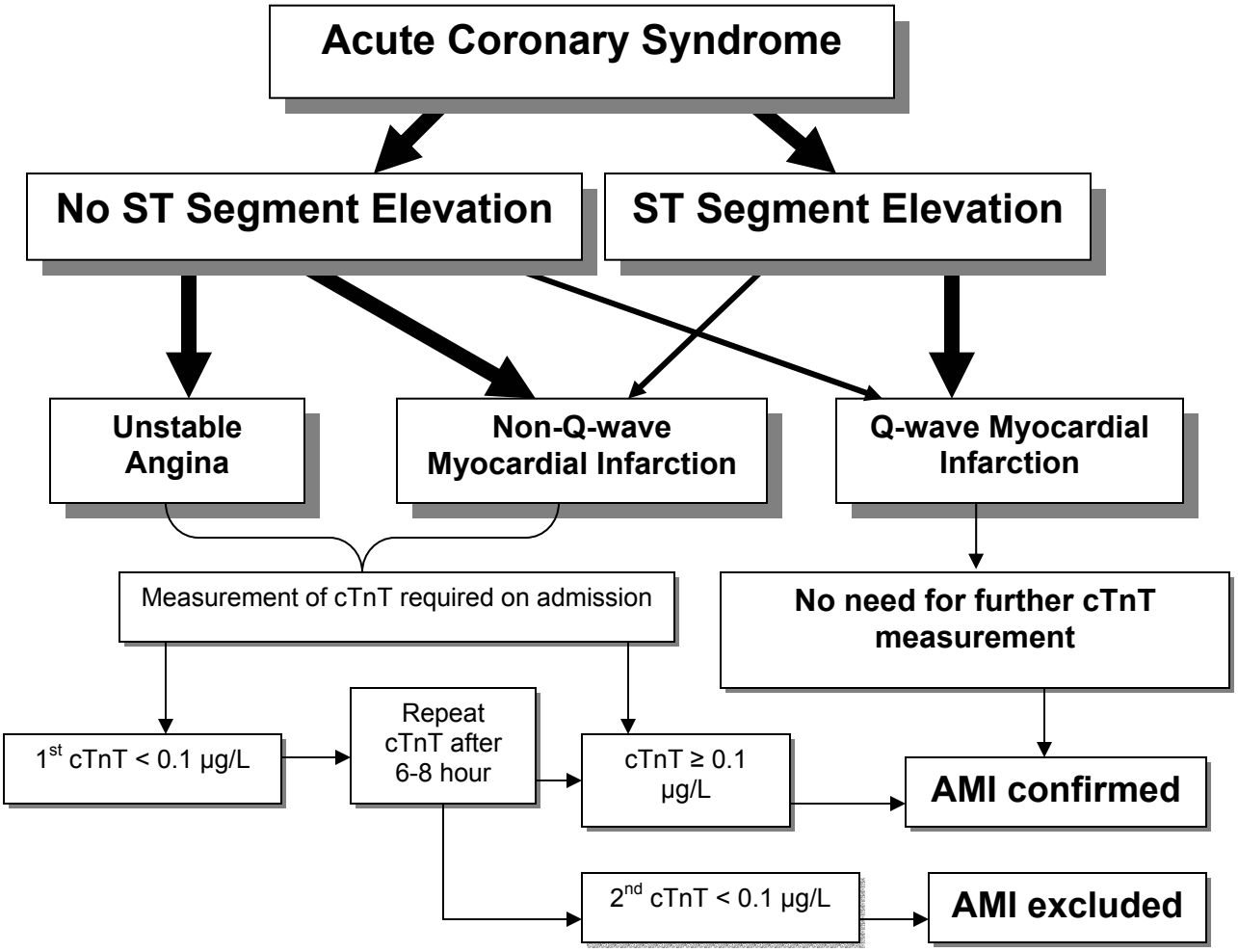
Biochemical Investigation Protocol for Acute Coronary Syndrome In NTE Cluster Hospitals

In NTEC, the **first line investigation** for any patient suspected of acute coronary syndrome (ACS) should be the **electrocardiogram** (ECG). ECG alone can already diagnose about 30-40% cases of acute myocardial infarction (AMI). Therefore quantitative cardiac troponin T (cTnT) service is not required for this category of patients.

However, there still exist 60-70% of AMI cases that cannot be diagnosed by ECG alone. Biochemical diagnosis is thus required urgently for the benefit of coronary intervention. Each patient suspected of ACS will be provided with at least one plasma cTnT measurement during the current episode. If the first result is less than the AMI cut-off of 0.1μg/L, a second cTnT assay will be recommended with blood collected at 6-8 hours after the initial test. If the first result is equal to or greater than the AMI cut-off at 0.1μg/L, then any second cTnT request will be unnecessary and will be declined (please see the flowchart below).



Important Message to Clinicians

Cardiac troponin T (cTnT) must not be part of a routine admission profile. It is requested only if there is a clinical suspicion of acute coronary syndrome (ACS). Regular auditing will be performed to reflect cTnT utilisation to the COS of respective departments.

Test Arrangements

Prince of Wales Hospital (PWH)

cTnT will be available 24-hourly at the PWH Urgent Chemical Pathology Laboratory. Prior booking at telephone number 2632-3353 is required. Each request requires 3 mL blood in EDTA bottle.

The duty medical technologist will ask for information on patient identification, request location and clinical diagnosis. He / she will also logon the date and time of the booking and give you a " U-number ". Please mark the " U-number " on the either the request form or specimen label for easy identification. Then please send the specimen to the Chemical Pathology Laboratory immediately. The specimen will be processed promptly. The mean turn-around time for urgently booked cTnT assay is about 1 hour. Please limit the use of this urgent cTnT service for the patients requiring biochemical diagnosis and coronary intervention.

cTnT specimens without prior booking through PWH Chemical Pathology Urgent Laboratory or from cluster transport will be performed at the Routine Chemical Pathology Laboratory in batches.

North District Hospital / Alice Ho Miu Ling Nethersole Hospital (NDH & AHNH)

Specimens for quantitative cTnT will be sent to the PWH Routine Chemical Pathology Laboratory for batched analysis through cluster transport. Therefore, please note the availability and time schedule of the cluster transport. Prior booking is **NOT** required.

For any urgent cases requiring a rapid turn-around time of cTnT result for clinical management, e.g., coronary intervention, please consult the duty cardiologist(s) in your local hospital.

Other Non-acute Hospitals in NTEC

Quantitative cTnT will be sent to the PWH Routine Chemical Pathology Laboratory for analysis through cluster transport. Therefore, please note the time schedule of the cluster transport. Prior booking is **NOT** required.

For any urgent cases requiring a rapid turn-around time of cTnT result for clinical management, e.g., coronary intervention, please consult the PWH Duty Biochemist.

Investigation of Suspected Re-infarction

Serum CKMB will be reserved as a **second-line test** for the diagnosis and investigation of re-infarction. Prior consultation with PWH Duty Biochemist to obtain an authorisation code (at 2632-2685 or 2632-2331, or page through PWH Operator at 2632-2211) is required.

Specimen Requirements

For PWH & other NTEC Hospitals, cTnT requires 3mL blood in EDTA bottle. For AHNH & NDH, cTnT requires both 3 mL blood in EDTA bottle and 1.3 mL blood Lithium Heparin bottle.

For all CKMB request, 5mL Lithium Heparin bottle with gel separator and prior authorisation from PWH Duty Biochemist are required.