

Stress only Myocardial Perfusion imaging - A Tool for Time Management and Reduction of Radiation Exposure

Team Members :

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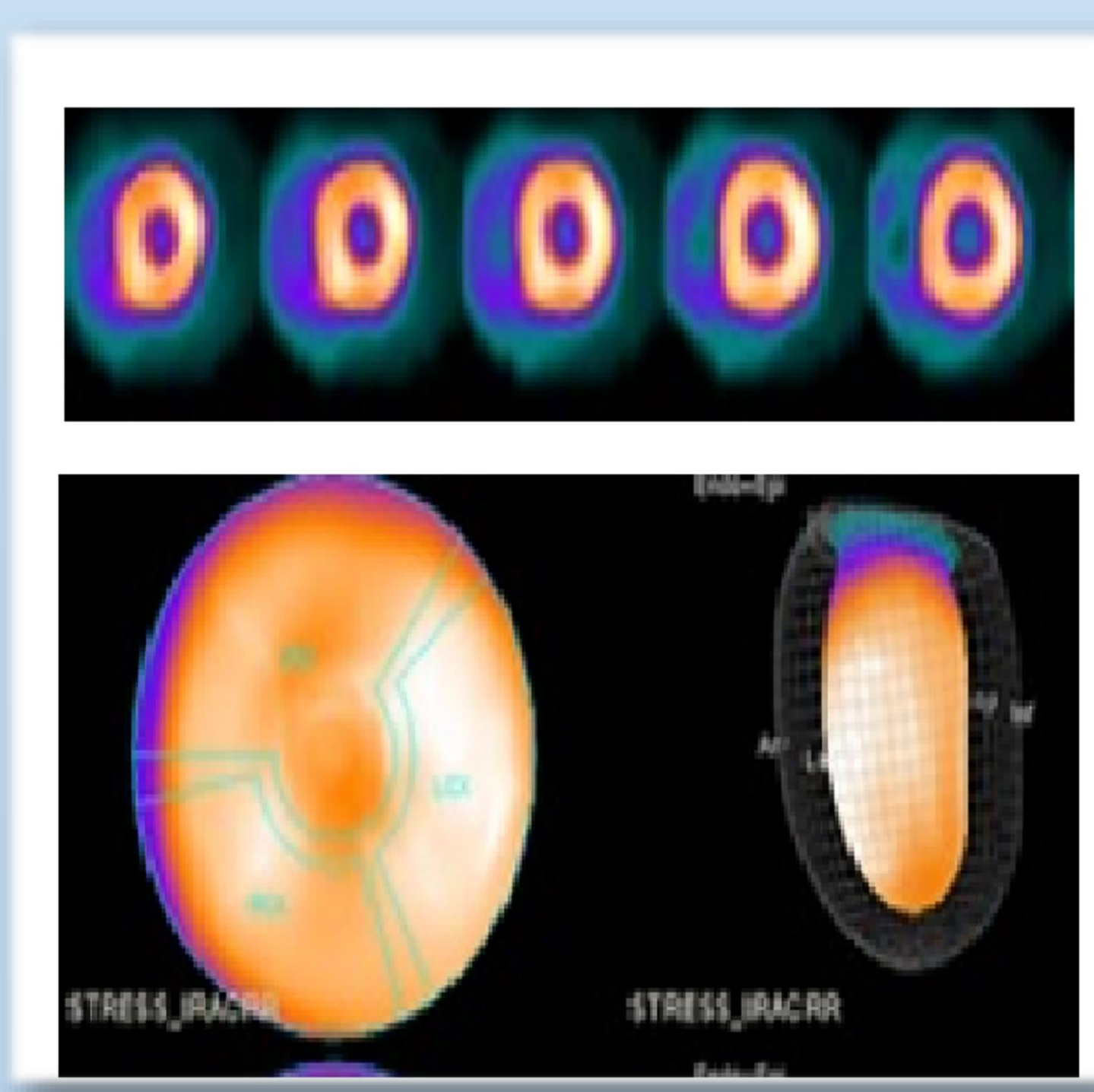
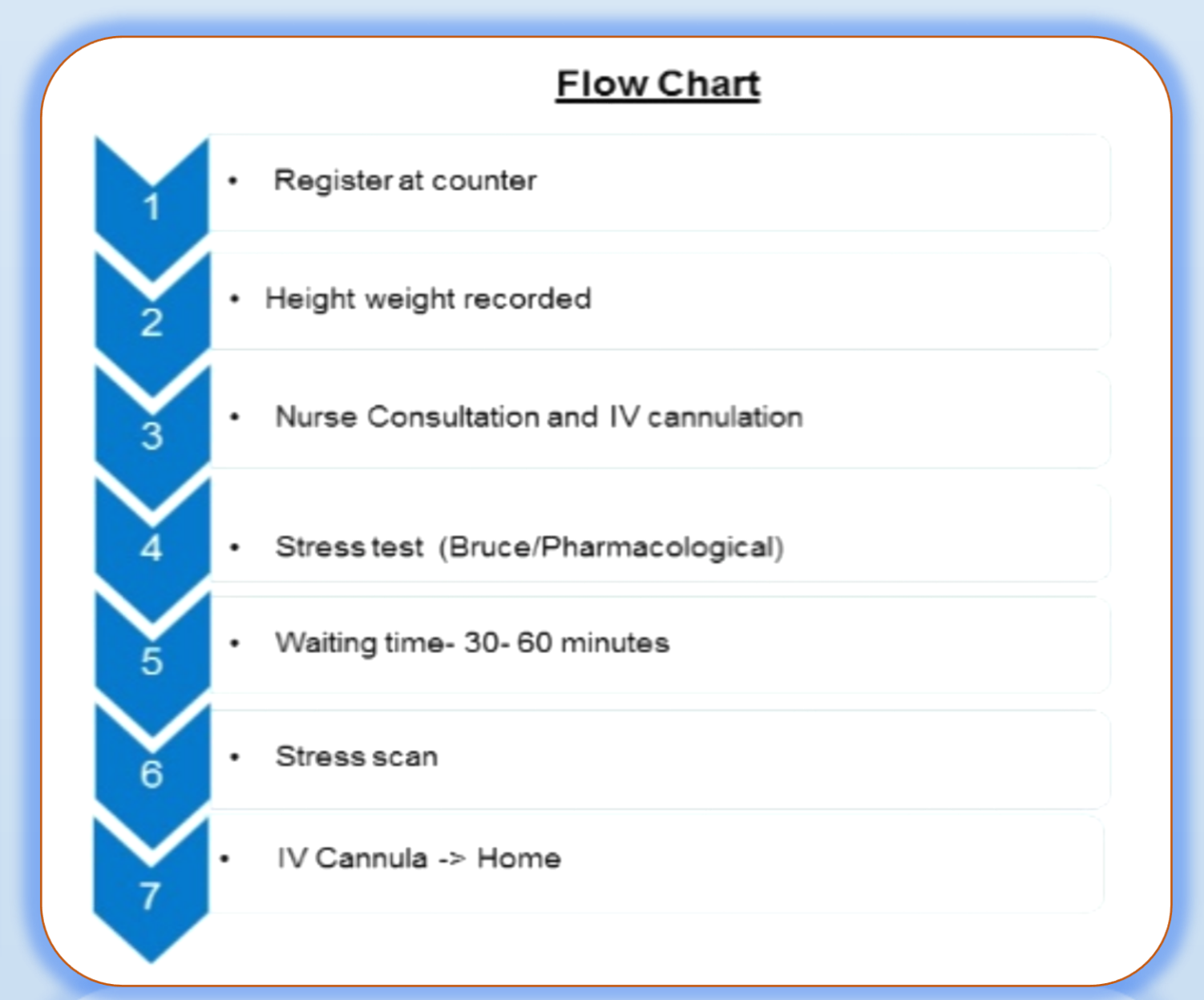
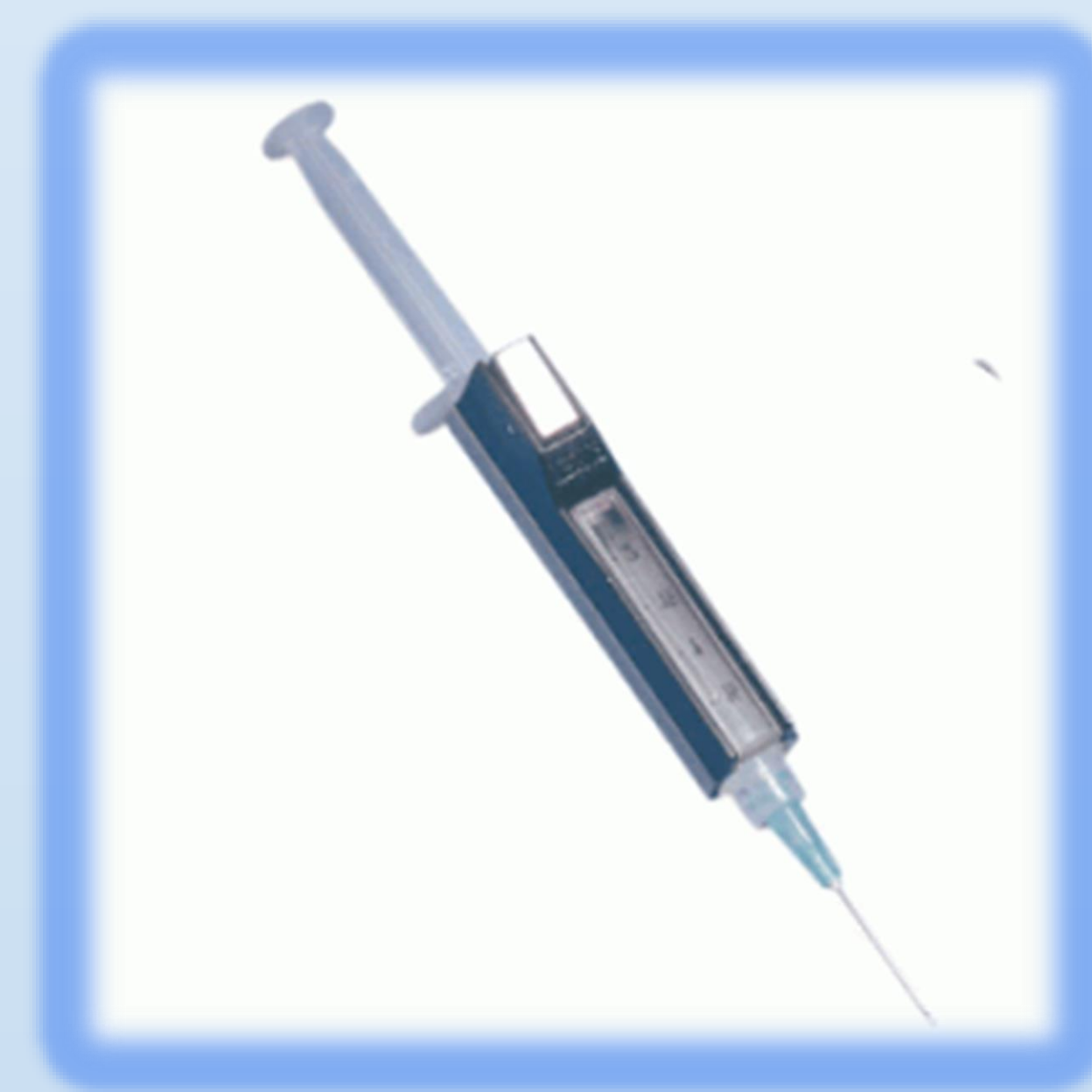
Location: This study was carried out at Nuclear Cardiology Services at Tan Tock Seng Hospital from January –December -2014

Aims:

- 1.To reduce the time spent in the nuclear laboratory for MPI scanning from 5 hours to 2h 15 min
- 2.To reduce radiation exposure by 40-60% based on body weight .

Introduction:

When my colleague came back from an observational attachment at Mt Sinai Hospital, in 2013, He shared his observations and their practices with our team. One of their practices was the ‘Stress- only protocol.’ As we have a high volume of patients {average of 13-15} daily, we felt that we could adopt this protocol, so that we will be able to cut down on radiation exposure & reduce the time patient spends in the lab., thus creating more slots for other patients. We then discussed the possibility of trying out this protocol with our Director Dr Fahim H Jafery



Methodology:

Previously, patients for MPI scanning came in for a full study which included rest and stress scan. In 2013, out of 2460 patients, the time taken to complete the procedure was 12,300 hrs. On average each patient was exposed to 32mCi of radiation dose (Tc99m Myoview).

We selected 278 patients to go through a trial that excluded the rest study. The selection criteria of the trial were, female Chinese patients from the age of 50 years and above and younger male patients who were at a lower risk for CAD presenting with atypical chest pain, baseline ECG showing NSR, CTA with moderate calcium scoring. Patients with previous MI, CABG, PCI, Abnormal ECG, CCF, uncontrolled DM, poor LVEF were not included in the study. Attenuation correction was routinely done for all patients selected for stress only protocol by doing prone position.

Problems Encountered:

- * Staff are reluctant to select patients for study
- * Time consuming for Staff to run through patient history
- * Resident Doctors encountered confusion in protocol.

Result:

The mean time spent by each patient was reduced by 55% i.e., 2h 15 min. As a result of the shorter time spent, there was also a reduction in radiation dose by 40%.

Conclusion:

We are able to achieve our target 2h.15min. The Preliminary studies show good outcome as it allows cancellation of rest imaging if stress images are normal. Therefore more patients should be recruited for stress only protocol.

