**Thallium 201 Chloride**

- Is a multipurpose myocardial perfusion tracer which allows viability as well as standard studies in a one day protocol. Mallinckrodt supplies Tl-201 Chloride in multiple activity sizes 5 times per week.  

- $^{201}\text{Tl}$ has several advantages over the current $^{99m}\text{Tc}$ myocardial perfusion agents, including a higher firstpass extraction and a higher roll-off translating to larger defects and sensitivity in showing defects in 50%-70% stenoses.

Stress image Tl-201 on a male of ave size with 70 MBq in 6 min with CZT camera.

Images courtesy of Dr. B. Songy, CCN, Paris, France
Injection should be strictly intravenous to avoid Thallium chloride local deposit and irradiation. In the event of paravenous injection, the injection should be immediately stopped and the site of injection should be cooled and rested in elevated position. When radiation necrosis occurs, surgical intervention may be necessary.  

**INTERACTION WITH OTHER MEDICINAL PRODUCTS AND OTHER FORMS OF INTERACTION** Some drugs are responsible for interferences modifying the Tl-201 thallium myocardial uptake. Three processes could be implied: Direct or indirect variations of the coronary blood flow (dipyridamole, adenosine, iso-prenaline, dobutamine, nitrates); Interferences with the interventional tests (beta blockers and stress tests, methylxanthines (i.e. theophyllin) and dipiridamole); Thallium cell uptake modifications, although no definitive data are available (digitalis analogues, insulin have been mentioned as examples).  

**FERTILITY, PREGNANCY AND LACTATION** No data are available on the use of Thallous (Tl-201) chloride in pregnancy. According to the high uterus radiation doses, Thallous (Tl-201) chloride is contraindicated during pregnancy. When an administration of radiopharmaceuticals to a woman of childbearing potential is intended, it is important to determine whether or not she is pregnant. Where uncertainty exists it is important that fertility; pregnancy and lactation information. Alternative techniques which do not involve ionising radiation should be considered. Breast-feeding. Thallous (Tl-201) chloride injection is contraindicated in breast-feeding mothers.  

**UNDESIRABLE EFFECTS** For each patient, exposure to ionising radiation must be justifiable on the basis of likely benefit. The activity administered must be such that the resulting radiation dose is as low as reasonably achievable bearing in mind the need to obtain the intended diagnostic result. Information on adverse reactions is available from spontaneous reporting. The reports describe anaphylactoid, vasovagal and injection site reactions which were mild to moderate and usually resolved with either no or symptomatic treatment. Thallous (Tl-201) chloride is often used in combination with a cardiac stress-test. The cardiac stress is hereby induced by ergometric exercise or by the use of appropriate medication. A patient may experience adverse reactions as a result of cardiac stress. Depending on the method used for inducing stress, such reactions include cardiovascular symptoms like palpitations, ECG abnormalities, arrhythmia, chest pain, shortness of breath, and ultimately myocardial infarction. Other symptoms related to the induced stress are hypertension or hypotension, chills, dysgeusia, nausea, vomiting and general fatigue or malaise. Exposure to ionising radiation is linked with cancer induction and a potential for development of hereditary defects. As the effective dose is 15.4 mSv when the maximal recommended activity of 110 MBq is administered these adverse events are expected to occur with a low probability. Marketing Authorisation Holder Mallinckrodt Medical B.V., Westerdwiweg 3, 1755 LE Petten Holland Date of Creation of Abbreviated Text September 24, 2013