STUDY TITLE: COURAGE (Clinical Outcomes Utilization Revascularization and Aggressive Drug Evaluation)

PUBLICATION TITLE: Optimal Medical Therapy with or without PCI for Stable Coronary Disease: Results From the Clinical Outcomes Utilizing Revascularization and Aggressive Drug Evaluation (COURAGE) Trial Nuclear Substudy

JOURNAL: Circulation 2008; 117:1283-1291


CONTEXT: In patients with stable coronary artery disease, it remains unclear whether an initial management strategy of percutaneous coronary intervention (PCI) with intensive pharmacologic therapy and lifestyle intervention (Optimal Medical Therapy) is superior to optimal medical therapy alone in reducing the risk of cardiovascular events. The COURAGE trial included a nuclear substudy to measure ischemic burden in a subset of patients.

OBJECTIVE: The primary aim of the nuclear substudy was to compare changes in ischemic burden after randomization to PCI+OMT compared with OMT alone and to explore associations with patient outcomes.

DESIGN, SETTING AND PATIENTS: The COURAGE (Clinical Outcomes Utilization Revascularization and Aggressive Drug Evaluation) Trial was a randomized trial involving 2,287 patients who had objective evidence of myocardial ischemia and significant coronary artery disease at 50 U.S. and Canadian centers. The substudy was predefined and electively offered to interested sites. Patients were enrolled from 25 of the 50 COURAGE sites. Patients willing to participate were consecutively enrolled and underwent pretreatment and 6 to 18 month follow-up gated Myocardial Perfusion Scintigraphy (MPS). Enrollment in this substudy continued until completion of the main trial, resulting in a sample size of 314 patients (PCI+OMT, n=159; OMT, n=155).

Substudy entry criteria included patients with medically stable CAD with ≥70% stenosis in at least 1 major epicardial coronary artery and MPS ischemia. Patients underwent a 1 or 2 day (22% were 2-day) protocol with either rest Tl201 or Tc99m sestamibi combined with stress Tc99m sestamibi (dual or single isotope protocol).

REDUCTION OF ISCHEMIC BURDEN AND CLINICAL OUTCOMES: Patients who exhibited no significant ischemia reduction on follow-up MPS were more likely to subsequently cross over to revascularization (from the OMT group) or undergo repeat revascularization (from the PCI+OMT group). Thirty-two of the 155 patients (21%) randomized to OMT crossed over to revascularization after the second MPS; 80% of those had exhibited no significant reduction in ischemia. Approximately 15% of those randomized to PCI+OMT underwent repeat revascularization after the second MPS, in whom 75% had exhibited no significant ischemia reduction. The substudy sample size was not powered to examine differences in clinical outcomes according to change in ischemic burden.

Cardiolite® Utilization: Cardiolite® was the myocardial perfusion imaging agent selected for use in the COURAGE nuclear substudy. In a total of 314 patients myocardial perfusion imaging with Cardiolite® was used in a 1 or 2 day, single or dual-isotope study protocol.

CONCLUSION: From this substudy of selected COURAGE patients who underwent serial MPS imaging, adding PCI to OMT resulted in greater reduction in inducible ischemia compared with OMT alone, and the benefit was greatest among patients with more severe baseline ischemia. Our exploratory analysis of clinical outcomes revealed that, regardless of treatment assignment, the magnitude of residual ischemia on follow-up MPS was proportional to the risk for death or MI, and a ≥5% reduction in ischemia was associated with a significant reduction in risk. These observations should inform the design of future randomized controlled trials to test the utility of reducing myocardial ischemia to ≤5% in patients with moderate to severe pretreatment ischemia to optimize prognosis.
INDICATIONS AND USAGE FOR CARDIOLITE®:
Indications and Usage Cardiolite®, Kit for the Preparation of Technetium Tc99m Sestamibi for Injection, is a myocardial perfusion agent that is indicated for detecting coronary artery disease by localizing myocardial ischemia (reversible defects) and infarction (non-reversible defects), in evaluating myocardial function and developing information for use in patient management decisions. Cardiolite® evaluation of myocardial ischemia can be accomplished with rest and cardiovascular stress techniques (e.g., exercise or pharmacologic stress in accordance with the pharmacologic stress agent's labeling).

It is usually not possible to determine the age of a myocardial infarction or to differentiate a recent myocardial infarction from ischemia.

IMPORTANT SAFETY INFORMATION FOR CARDIOLITE:
Exercise and pharmacologic stress testing should be performed only under the supervision of a qualified physician. Cardiolite® has been rarely associated with acute severe allergic events of angioedema and urticaria. The most frequently reported adverse events include headache, chest pain/angina, ST segment changes on ECG, nausea, and abnormal taste and smell.
INDICATIONS AND USAGE
Myocardial Imaging: CARDIOLITE® Kit for the Preparation of Technetium Tc99m Sestamibi for Injection, is a myocardial perfusion agent that is indicated for detecting coronary artery disease by localizing myocardial ischemia (reversible defects) and infarction (non-reversible defects), in evaluating myocardial function and developing information for use in patient management decisions.

Dosage Forms and Strengths
CARDIOLITE® is supplied as a lyophilized mixture in a 5 mL vial. See Table 1.0.

Contraindications
None known

Warnings and Precautions
Pharmacologic induction of cardiovascular stress may be associated with serious adverse events such as myocardial infarction, arrhythmia, hypotension, myocardial infarction and cerebrovascular events.

CARDIOLITE® has been primarily associated with severe allergic and anaphylactic events of angioedema and generalized urticaria. In some patients the allergic symptoms developed on the second injection during CARDIOLITE® imaging.

Caution should be exercised and emergency equipment should be available when administering CARDIOLITE®.

Before administering CARDIOLITE®, patients should be debriefed about the possibility of allergic reactions to either drug.

The contents of the vial are intended only for use in the preparation of Technetium Tc99m Sestamibi for Injection and should not be administered directly to the patient without first undergoing the preparatory procedure.

Adverse Reactions
The following adverse reactions have been reported in 0.5% of patients: signs and symptoms consistent with one or more occurring shortly after administration of the agent: transient arthritis, angioedema, arthralgia, dizziness, syncope, abdominal pain, vomiting, and severe hypersensitivity characterized by dyspnea, hypotension, bradycardia, asthma, and vomiting within two hours after a second injection of Technetium Tc99m Sestamibi. A few cases of flushing, edema, injection site inflammation, dry mouth, fever, pruritus, rash, urticaria and fatigue have also been attributed to administration of the agent.

To report SUSPECTED ADVERSE REACTIONS, contact Lantheus Medical Imaging, Inc. at 1-800-362-0668 or FDA at 1-800-FDA-1088 or (301) 254-0000.

Drug Interactions
Specific drug-drug interactions have not been studied.

Use in Specific Populations
In one study of 46 subjects who received CARDIOLITE® administration, the radioactivity in both children and adolescents exhibited blood PK profiles similar to those previously reported in adults.

Use in Pregnancy
8.1 Pregnancy
8.3 Nursing Mothers

For Drug Interactions for specific drugs, please see prescribing information for Technetium Tc99m Sestamibi for Injection.
Radiopharmaceuticals should be used only by physicians who are qualified by training and experience in the safe use and handling of radionuclides and whose experience and training have been approved by the appropriate government agency authorized to license the use of radionuclides. Stress testing should be performed only under the supervision of a qualified physician and in a laboratory equipped with appropriate resuscitation and support equipment.

The most frequent exercise stress test endpoints sufficient to stop the test reported during controlled studies (two-thirds were cardiac patients) were:
- Fatigue 35%
- Dyspnea 17%
- Chest Pain 16%
- ST-segment depression
- Arthralgia 1%

6. ADVERSE REACTIONS

Adverse events were evaluated in 3741 adults who were evaluated in clinical studies. Of these patients, 3068 (77% men, 22% women, and 0.7% of the patients' genders were not recorded) were in cardiac clinical trials and 673 (100% women) in breast imaging trials. Cases of angina, chest pain, and death have occurred (see Section 5). Adverse events reported at a rate of 0.5% or greater after receiving Technetium Tc99m Sestamibi administration are shown in the following table.

<table>
<thead>
<tr>
<th>Body System</th>
<th>Occurrence in Adults</th>
<th>Occurrence in Breast</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body as a Whole</td>
<td>21 (3.1%)</td>
<td>6 (0.6%)</td>
<td>27 (0.6%)</td>
</tr>
<tr>
<td>Head</td>
<td>11 (1.6%)</td>
<td>2 (0.2%)</td>
<td>13 (0.3%)</td>
</tr>
<tr>
<td>Cardiovascular</td>
<td>9 (1.3%)</td>
<td>24 (3.5%)</td>
<td>33 (0.8%)</td>
</tr>
<tr>
<td>Chest Pain/Angina</td>
<td>0%</td>
<td>18 (2.6%)</td>
<td>18 (0.4%)</td>
</tr>
<tr>
<td>SI segment changes</td>
<td>0%</td>
<td>11 (1.6%)</td>
<td>11 (0.3%)</td>
</tr>
<tr>
<td>Nausea</td>
<td>4 (0.6%)</td>
<td>1 (0.1%)</td>
<td>5 (0.1%)</td>
</tr>
<tr>
<td>Special Senses</td>
<td>132 (19.5%)</td>
<td>62 (8.1%)</td>
<td>194 (4.3%)</td>
</tr>
<tr>
<td>Tolerance</td>
<td>129 (19.6%)</td>
<td>60 (8.5%)</td>
<td>189 (4.2%)</td>
</tr>
<tr>
<td>Paroxysms</td>
<td>8 (1.2%)</td>
<td>6 (0.8%)</td>
<td>14 (0.3%)</td>
</tr>
<tr>
<td>Excludes</td>
<td>22 (3.2%)</td>
<td>30 (4.0%)</td>
<td>52 (1.2%)</td>
</tr>
</tbody>
</table>

In the clinical studies for breast imaging, breast pain was reported in 12 (1.7%) of the patients. In 11 of these patients the pain appears to be associated with biopsy/surgical procedures.

The following adverse reactions have been reported in ≥ 0.5% of patients: signs and symptoms consistent with severe occurring shortly after administration of the agent, bronchoconstriction, angioedema, urticaria, bronchospasm, and cerebrovascular events. Caution should be used when pharmacologic induction of cardiovascular stress may be associated with serious adverse events such as myocardial infarction, arrhythmia, hypotension, bronchoconstriction and cerebrovascular events. Caution should be used when administering either CARDIOLITE® or MIRALUMA® imaging are being administered.

In a clinical pharmacology study, 46 pediatric patients with Kawasaki disease received CARDIOLITE® administration at the following doses: 0.1 – 0.2 mCi/kg for rest, 0.3 mCi/kg for stress in one day studies; 0.2 mCi/kg for rest and 0.2 mCi/kg for stress in two days study.

The radioactivity both in younger children and in adolescents exhibited PK profiles similar to those previously reported in adults (see Section 12). The radiation absorbed doses in adolescents, both at rest and stress, were similar to those observed in adults (see Section 2). When comparing weight-adjusted radioactivity (up to 0.3 mCi/kg) doses administered to adolescents and younger children to the recommended dose administered to adults (up to 30 mCi), the radiation absorbed doses in both adolescents and younger children were similar to those in adults.

Adverse events were evaluated in 609 pediatric patients from the three clinical studies described above. The frequency and the type of the adverse events were similar to the ones observed in the studies of CARDIOLITE® adults. Two of the 609 had a serious adverse event: one patient received a CARDIOLITE® overdose but remained asymptomatic, and one patient had an asthma exacerbation following administration.

5.2 General Precautions

The contents of the vial are intended only for use in the preparation of Technetium Tc99m Sestamibi and are not to be administered directly to the patient without appropriate radiation detector. The contents of the vial are intended only for use in the preparation of Technetium Tc99m Sestamibi for injection.

The precise structure of the technetium complex is Tc99m[MIBI]4, where MIBI is 2-methoxyisobutylisonitrile. This drug is administered by intravenous injection for diagnostic use after reconstitution with sterile, pyrogen-free water for injection. The reconstituted product is sterile, pyrogen-free and does not contain any bacteriostatic preservative.

The specific structure of the technetium complex is Tc99m[MIBI]4, where MIBI is 2-methoxyisobutylisonitrile.

11.1 Physical Characteristics

Technetium Tc99m decays by isomeric transition with a physical half-life of 6.02 hours. Photons that are useful for detection and imaging studies are listed below in Table 5.0.

4. Pediatric Use

Safety and effectiveness in the pediatric population have not been established. No evidence of diagnostic efficacy or clinical utility of CARDIOLITE® scan was found in clinical studies of children and adolescents with Kawasaki disease.

A prospective study of 445 pediatric patients with Kawasaki disease was designed to determine the predictive value of CARDIOLITE® rest and stress myocardial perfusion imaging to define a pediatric population with Kawasaki disease that was at risk of developing cardiac events. Cardiac events were defined as cardiac death, MI, hospitalization due to cardiac etiology, heart failure, CAGB or coronary angioplasty. The standard of truth was defined as cardiac events occurring 6 months following the administration of CARDIOLITE®. Only three cardiac events were observed at six months in this study. In all three cases, the scan was negative. No clinically meaningful measurements of sensitivity, specificity or other diagnostic performance parameters could be demonstrated in this study.

10. OVERDOSAGE

The clinical consequences of overdosing with CARDIOLITE® are not known.

11. DESCRIPTION

Each 5 mL vial contains a sterile, non-pyrogenic, lyophilized mixture of:
- Technetium Tc99m  Sestamibi. A few cases of flushing, edema, injection site pain, vomiting, and severe hypersensitivity characterized by dyspnea, hypotension, bronchospasm, and cerebrovascular events. Caution should be used when administering the agent.
- Tin Chloride (stannous and stannic) Dihydrate, maximum (as SnCl2·2H2O) – 0.025 mg
- Stannous Chloride, Dihydrate, (SnCl2·2H2O) – 0.025 mg
- Mannitol – 20 mg
- L-Cysteine Hydrochloride Monohydrate - 1.0 mg
- Water for Injection – amount required to make 5 mL

Excludes the 22 patients whose gender was not recorded.

In a clinical pharmacology study, 46 pediatric patients with Kawasaki disease received CARDIOLITE® administration at the following doses: 0.1 – 0.2 mCi/kg for rest, 0.3 mCi/kg for stress in one day studies; 0.2 mCi/kg for rest and 0.2 mCi/kg for stress in two days study.

The radioactivity both in younger children and in adolescents exhibited PK profiles similar to those previously reported in adults (see Section 12).

The radiation absorbed doses in adolescents, both at rest and stress, were similar to those observed in adults (see Section 2). When comparing weight-adjusted radioactivity (up to 0.3 mCi/kg) doses administered to adolescents and younger children to the recommended dose administered to adults (up to 30 mCi), the radiation absorbed doses in both adolescents and younger children were similar to those in adults.

Adverse events were evaluated in 609 pediatric patients from the three clinical studies described above. The frequency and the type of the adverse events were similar to the ones observed in the studies of CARDIOLITE® adults. Two of the 609 had a serious adverse event: one patient received a CARDIOLITE® overdose but remained asymptomatic, and one patient had an asthma exacerbation following administration.

5.4 Therapeutic Use

In a clinical pharmacology study, 46 pediatric patients with Kawasaki disease received CARDIOLITE® administration at the following doses: 0.1 – 0.2 mCi/kg for rest, 0.3 mCi/kg for stress in one day studies; 0.2 mCi/kg for rest and 0.2 mCi/kg for stress in two days study.

The radioactivity both in younger children and in adolescents exhibited PK profiles similar to those previously reported in adults (see Section 12).

The radiation absorbed doses in adolescents, both at rest and stress, were similar to those observed in adults (see Section 2). When comparing weight-adjusted radioactivity (up to 0.3 mCi/kg) doses administered to adolescents and younger children to the recommended dose administered to adults (up to 30 mCi), the radiation absorbed doses in both adolescents and younger children were similar to those in adults.

Adverse events were evaluated in 609 pediatric patients from the three clinical studies described above. The frequency and the type of the adverse events were similar to the ones observed in the studies of CARDIOLITE® adults. Two of the 609 had a serious adverse event: one patient received a CARDIOLITE® overdose but remained asymptomatic, and one patient had an asthma exacerbation following administration.

5.5 Overdosage

The clinical consequences of overdosing with CARDIOLITE® are not known.

5.2 General Precautions

The contents of the vial are intended only for use in the preparation of Technetium Tc99m Sestamibi and are not to be administered directly to the patient without first undergoing the preparative procedure.

Radioactive drugs must be handled with care and appropriate safety measures should be used to minimize radiation exposure to clinical personnel. Also, care should be taken to minimize radiation exposure to the patients consistent with proper patient management.

Contents of the kit before preparation are not radioactive. However, after the Sodium Pertechnetate Tc99m Injection is added, adequate shielding of the final preparation must be maintained. The components of the kit are sterile and non-pyrogenic. It is essential to follow directions carefully and to adhere to strict aseptic procedures during preparation.

Technetium Tc99m labeling reactions depend on maintaining the stannous ion in the reduced state. Hence, Sodium Pertechnetate Tc99m Injection containing oxidants should not be used.

Technetium Tc99m Sestamibi should not be used more than six hours after preparation.
MYOCARDIAL IMAGING: In a trial of rest and stress CARDIOLITE imaging, the relationship of normal or abnormal perfusion scans and long term cardiac events was evaluated in 527 patients (511 men, 10 women) with stable chest pain. There were 73.9% Caucasians, 25.9% Blacks and 0.2% Asians. The mean age was 59.5 years (range: 29 to 84 years). All patients had a baseline rest and exercise CARDIOLITE scan and were followed for 13.2 ± 4.9 months (range: 1 to 24 months). Images were correlated with the occurrence of a cardiac event (cardiac death or non-fatal myocardial infarction). In this trial as summarized in Table 7.0, 24/2/4 (4.6%) had a cardiac event.  

### Table 7.0 Cardiac Events

<table>
<thead>
<tr>
<th>Baseline Scan</th>
<th>Proportion of patients with events by scan result</th>
<th>Proportion of scans with results in patients with events</th>
<th>Proportion of events-free patients by scan result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal</td>
<td>1/206 (0.5%)</td>
<td>1/24 (4.2%)</td>
<td>205/206 (99.5%)</td>
</tr>
<tr>
<td>Abnormal</td>
<td>23/315 (7.3%)</td>
<td>23/24 (95.8%)</td>
<td>292/315 (92.7%)</td>
</tr>
</tbody>
</table>

(a) Note: Similar findings were found in two studies with patients who had pharmacologic stress CARDIOLITE imaging.  

(b) p<0.01  

Although patients with normal images had a lower cardiac event rate than those with abnormal images, in all patients with abnormal images it was not possible to predict which patient would be likely to have further cardiac events; i.e., such individuals were not distinguishable from other patients with abnormal images. The findings were not evaluated for defect location, disease duration, specific vessel involvement or intervening management.  

In earlier trials, using a template consisting of the anterior wall, inferior-posterior wall and isolated localization in the anterior-inferior-posterior wall in patients with suspected angina or coronary artery disease was shown. Disease localization isolated to the apex has not been established. In adults, CARDIOLITE Scintigraphy has not been studied or evaluated in cardiac disorders other than coronary artery disease.  

BREAST IMAGING: MIRALUMA was evaluated in a multicenter, clinical trials of a total of 673 women patients. Overall the mean age was 52 (range 23 to 67 years). The racial and ethnic representation was 70% Caucasian, 22% African-American, 14% Hispanic and 4% Asian. Both clinical studies evaluated women who were referred for further evaluation for either: 1) a mammographically detected with varying degrees of malignant likelihood but not palpable breast lesion (study A, n=387, mean age = 54 years), or 2) a palpable breast lesion (study B, n=206, mean age = 50 years). In both studies all patients had a baseline scintigraphic image. MIRALUMA® (20 - 30 mCi) was injected intravenously in a vein that was aorta, to the left ventricle. Peak imaging was performed with a high resolution collimator with a 10% window centered at 140 KeV, and 128 x 128 matrix. An initial marker image, that was not used in the data analysis, was obtained using a cobalt Co57 source as a marker of a palpable mass. Images were obtained 5 minutes after injection as follows: lateral image of the affected breast for 10 minutes, lateral image of the contralateral breast for 10 minutes, and an anterior image of both breasts for 10 minutes. For the lateral image the patients were positioned in a prone position. For the anterior image, the patients were supine. The MIRALUMA® scintigraphic images were read in a randomized method by two groups of three blinded readers. MIRALUMA® uptake was scored normal (no uptake), focal, patchy or high uptake. The results of MIRALUMA® images and mammography were analyzed in comparison to histopathologic findings of malignant or non-malignant disease. As shown in Table 8.0 for the 463 evaluable patients, the sensitivity and specificity of any degree of MIRALUMA® uptake appear to vary with the presence or absence of palpable mass.  

### Table 8.0 Overall MIRALUMA® Blinded Results of Target Lesions (a)  

<table>
<thead>
<tr>
<th>STATISTIC</th>
<th>Study A</th>
<th>Study B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Patients and Lesions</td>
<td>N=277 Patients with 300 Lesions</td>
<td>N=246 Patients with 240 Lesions</td>
</tr>
<tr>
<td>Sensitivity</td>
<td>52/42 [62%]</td>
<td>76/87 [83%]</td>
</tr>
<tr>
<td>Specificity</td>
<td>94/93 [96%]</td>
<td>80/71 [91%]</td>
</tr>
<tr>
<td>PPV</td>
<td>79/87 [94%]</td>
<td>67/78 [89%]</td>
</tr>
<tr>
<td>NPV</td>
<td>80/74 [85%]</td>
<td>69/84 [89%]</td>
</tr>
<tr>
<td>Agreement</td>
<td>80/75 [85%]</td>
<td>70/85 [85%]</td>
</tr>
</tbody>
</table>

(a) Excludes all discordant lesions not identified at entry and excludes 25% of equivocal interpretations from Study A and 32% of equivocal interpretations from Study B (see Tables 9.0 and 10.0).  

(b) Some patients had more than one target lesion  

(c) Mean and approximated 90% Confidence Interval  

(d) PPV = Positive Predictive Value; NPV = Negative Predictive Value  

In a separate retrospective subset analysis of 259 patients with dense (heterogeneous/extremely dense) and 275 patients with fatty (almost completely fat/normous vague densities) breast tissue, the MIRALUMA® results were similar. Overall, the studies were not designed to compare the performance of MIRALUMA® with the performance of mammography in patients with breast densities or other consistent breast tissue densities.  

In general the histology seems to correlate with the degree of MIRALUMA® uptake. As shown in Tables 9.0 and 10.0, the majority of the normal MIRALUMA® images are associated with non-malignant tissue (78.1%) and the majority of low, moderate or high uptake MIRALUMA® images are associated with malignant disease (77.9%). In an individual patient, however, the intensity of MIRALUMA® uptake can not be used to confirm the presence or absence of malignancy. Equivocal results do not have a correlation with histology.  

An estimate of the likelihood of malignancy based on the MIRALUMA® uptake score in combination with the mammographic score has not been studied. In these two studies approximately 150 additional, non-biopsied lesions were found to be positive after MIRALUMA® imaging. These lesions were identified in sites that did not physically correlate with identified entry criteria mammographic lesions and these lesions were not palpable. These lesions were not biopsied. Although these lesions were benign or malignant unknown. MIRALUMA® uptake can occur in both benign and malignant disease. THE CLINICAL USEFULNESS OF A POSITIVE MIRALUMA® IMAGE IN THE ABSENCE OF AN ABNORMAL MAMMOGRAM OR ABNORMAL LESION IS NOT KNOWN.  

15. REFERENCES  

Not applicable.  

16. HOW SUPPLIED/STORAGE AND HANDLING  

CARDIOLITE®, Kit for the Preparation of Technetium Tc99m Scintillation for Injection is supplied as a 5 mL vial in kits of five (5) vials (NDC # 11994-001-55) and twenty (20) vials (NDC # 11994-001-20), sterile and non-pyrogenic.  

The patient dose should be measured by a suitable radioactivity calibration system immediately prior to patient administration. Radiochemical purity should be checked prior to patient administration. Parenteral drug products should be inspected visually for particulate matter and discoloration prior to administration whenever solution and container permit. Prior to hypolization the pH is between 5.3-5.9. The contents of the vial should be sterilized and stored under nitrogen. Store at 15-25°C (59-77°F) before and after reconstitution.  

Technetium Tc99m Scintillation contains no preservatives. Included in each five (5) vial kit is one (1) package insert. Included in each twenty (20) vial kit is one (1) label insert, twenty four (24) vial shield labels and twenty four (24) radiation warning labels. Included in each twenty (20) vial kit is one (1) package insert, twenty four (24) vial shield labels and twenty four (24) radiation warning labels. This reagent kit is approved for distribution to persons licensed pursuant to the Code of Massachusetts Regulations 105 CMR 120.500 for the users listed in 105 CMR 120.547 or 120.552, or under equivalent regulations of the U.S. Nuclear Regulatory Commission, Agreement States or Licensing States.  

17. PATIENT COUNSELING INFORMATION  

CARDIOLITE® and MIRALUMA® are different names for the same drug. Patients should be advised to inform their health care provider if they had an allergic reaction to either drug or if they had an imaging study with either drug.