

## CONTINUING EDUCATION TEST #1

### Indium-111 Satumomab Pendetide

For each of the following questions, select the best answer. Then circle the number on the CE Tests Answer Sheet that corresponds to the answer you have selected. Complete the answer sheet. Keep a record of your responses so that you can compare them with the correct answers, which will be published in the next issue of *JNMT*. Answers to these test questions should be returned on the Answer Sheet no later than **November 15, 1998**. An 80% correct response rate is required to receive 1.0 CEH (Continuing Education Hour) credit for each article. SNM Technologist Section members can find their VOICE number on the upper left-hand corner of their *JNMT* mailing labels. If you've joined our Nonmember VOICE Tracking Program, please write **NMVT** on the Answer Sheet (no extra fee is required). Documentation will appear on your VOICE transcript. Nonmembers who have not joined our Nonmember VOICE Tracking Program must mail a \$10.00 check or money order, made payable to SNM, for each completed quiz. You will receive a certificate of completion indicating credit awarded for receiving a passing score of 80% or better.

**A.** *Colorectal carcinoma is the second most common cause of cancer mortality.*

- 101. true
- 102. false

**B.** *Which of the following statements is false about monoclonal antibodies (Mabs)?*

- 103. Of the five classes of Mabs, IgG is the smallest in size.
- 104. The Fc portion of the molecule attaches to the antigen (Ag).
- 105. The IgG molecule consists of two light chains and two heavy chains.
- 106. The variable regions are at the Fab end of the glycoprotein molecule.

**C.** *Choose the one true statement.*

- 107. Kohler and Milstein developed a Mab used to detect ovarian carcinoma.
- 108. A Mab stimulates B-lymphocytes to produce a specific Ag.
- 109. The most important property of a Mab is its affinity for the Ag of interest.
- 110. Radioimmunotherapy involves the use of external beam radiation directed at tumor sites imaged with a radiolabeled Mab.

**D.** *The approximate 3-day half-life of <sup>111</sup>In corresponds better to the in vivo kinetics of a whole Mab than to a Mab fragment.*

- 111. true
- 112. false

**E.** *With regard to radiolabeled Mabs, which of the following are not appropriate imaging/therapy counterparts?*

- 113. <sup>201</sup>Tl/<sup>131</sup>I
- 114. <sup>99m</sup>Tc/<sup>186</sup>Re
- 115. <sup>111</sup>In/<sup>90</sup>Y

**F.** *Antibody fragments, as well as chimeric, humanized and human antibodies, are less immunogenic than whole murine antibodies when injected into humans.*

- 116. true
- 117. false

**G.** *Which of the following statements about <sup>111</sup>In OncoScint® CR/OV is false?*

- 118. It is the first radiolabeled Mab approved by the FDA for tumor imaging in patients.
- 119. The Mab is directed against the TAG-72 Ag.
- 120. It is reactive with all colorectal and ovarian cancers.
- 121. Nonantigen-dependent localization is seen in the liver, spleen and bone marrow.

**H.** *Phase I clinical trials evaluate the efficacy and risk-benefit of a new drug or biologic product such as a Mab.*

- 122. true
- 123. false

**I.** *Which of the following statements is false regarding the use of OncoScint® CR/OV in patients with colorectal carcinoma?*

- 124. The main advantage of the Mab over CT is the detection of tumor in the extrahepatic abdomen and pelvis.
- 125. In the clinical trials the negative predictive value was only 19% (i.e., 81% of highly-selected patients with negative scans actually had tumors at surgery).
- 126. In the clinical trials the positive predictive value was only 70% (i.e., 30% of patients with positive scans did not have tumors at surgery).

**J.** *Which of the following statements is true regarding the use of OncoScint® CR/OV in patients with ovarian cancer?*

- 127. The sensitivity of OncoScint CR/OV for the detection of disease is approximately twice that of CT (59% versus 29%).
- 128. OncoScint CR/OV and CT are equally effective in demonstrating carcinomatosis.
- 129. OncoScint CR/OV is useful in distinguishing benign from malignant primary ovarian tumors.

**K.** *The most common adverse reaction to <sup>111</sup>In OncoScint® CR/OV injection is fever.*

- 130. true
- 131. false

(continued)

## CONTINUING EDUCATION TEST #1 (continued)

**L.** Which of the following statements about human antimouse antibody (HAMA) is *false*?

132. HAMA may change the biodistribution of a Mab on a repeat study.
133. HAMA may interfere with serum tumor marker studies that are murine antibody-based immunoassays such as CEA.
134. Approximately 20% of patients develop HAMA after injection with <sup>111</sup>In OncoScint® CR/OV.

**M.** Which of the following is *not* an indication for <sup>111</sup>In OncoScint® CR/OV imaging?

135. to evaluate for tumor sites in patients with rising serum tumor marker values, such as CEA or CA-125
136. to search for additional tumor sites before surgery in patients with presumed solitary focus of colorectal carcinoma
137. to screen patients with melena for colorectal carcinoma
138. to distinguish residual tumor from fibrosis after radiation therapy or surgery

**N.** Which of the following is *true* about imaging with <sup>111</sup>In OncoScint® CR/OV?

139. There is usually no uptake in areas of inflammation, arthritis or ostomy sites.
140. Imaging is ideally performed 24 hr after injection.
141. Oral cathartics usually result in a greater degree of colonic activity.
142. Ten-minute anterior and posterior images of the chest, abdomen and pelvis are recommended on each day of imaging.
143. SPECT is not useful to detect additional sites of tumor.

**O.** Which of the following is a *weakness* of <sup>111</sup>In OncoScint® CR/OV?

144. the ability to detect carcinomatosis
145. the ability to distinguish fibrosis from tumor when compared to MR or CT
146. the ability to detect liver metastases when compared to MR or CT
147. the ability to detect colon or ovarian cancer in a lymph node of normal size by CT or MR criteria

(tests continued)

## Nuclear Cardiology, Part III

**P.** The stress testing technique of choice for the evaluation of coronary flow reserve is \_\_\_\_\_.

- 148. exercise
- 149. dipyridamole
- 150. adenosine
- 151. dobutamine
- 152. all of the above

**Q.** Separate rest and stress studies are necessary to distinguish ischemia from myocardial scar when  $^{99m}\text{Tc}$ -sestamibi is used because \_\_\_\_\_.

- 153. of liver uptake after stress testing
- 154. redistribution of the tracer is negligible
- 155. of passive tracer transport over the cellular membrane
- 156. 153 and 154 are correct
- 157. 153 and 155 are correct

**R.** The upward creep artifact is uncommon when  $^{99m}\text{Tc}$ -sestamibi is used because \_\_\_\_\_.

- 158. the tracer is administered immediately before pharmacological stress
- 159. the tracer is administered following pharmacological stress
- 160. imaging is usually delayed after tracer administration
- 161. fasting is recommended on the day of the study
- 162. a smaller amount of  $^{99m}\text{Tc}$ -sestamibi is used compared to  $^{201}\text{Tl}$

**S.** The diagnostic assessment of myocardial ischemia with  $^{99m}\text{Tc}$ -sestamibi is best done with \_\_\_\_\_.

- 163. a rest-only protocol
- 164. a rest-stress protocol
- 165. a stress-rest protocol
- 166. a stress-only protocol
- 167. any of the above; they all are comparable

**T.** The tracer should be administered \_\_\_\_\_.

- 168. immediately before dobutamine
- 169. 2-5 min following infusion of any pharmacological stress agent
- 170. near the end of symptom-limited exercise
- 171. both 168 and 170
- 172. both 169 and 170

**U.** The cine display of projections is useful to discover artifacts caused by \_\_\_\_\_.

- 173. attenuation
- 174. patient motion
- 175. upward creep
- 176. 174 and 175
- 177. 173, 174 and 175

**V.** When  $^{201}\text{Tl}$  is used the heart-to-lung ratio may indicate the presence of \_\_\_\_\_.

- 178. renal ischemia
- 179. left ventricular failure
- 180. increased pulmonary wedge pressure
- 181. 179 and 180
- 182. 178, 179 and 180

**W.** ECG gating is useful in \_\_\_\_\_.

- 183. improving counting statistics
- 184. improving spatial resolution
- 185. assessing global left ventricular function
- 186. 183 and 185
- 187. 184 and 185

**X.** The sensitivity of  $^{99m}\text{Tc}$ -sestamibi to detect coronary artery disease compared to  $^{201}\text{Tl}$  is \_\_\_\_\_.

- 188. lower
- 189. about the same
- 190. higher

**Y.** Patients with suspected coronary artery disease usually have \_\_\_\_\_ resting myocardial images.

- 191. normal
- 192. abnormal

### Answers to CE Article Test #1, June 1998

The continuing education article "Nuclear Cardiology, Part II by Hambÿe et al. was accompanied by a CE test. The correct answers are as follows.

A. 104	D. 112	G. 122	J. 128	M. 139
B. 107	E. 117	H. 123	K. 130	N. 141
C. 108	F. 119	I. 126	L. 133	

### Answers to CE Article Test #2, June 1998

The continuing education article "Radiopharmaceuticals for Bone Malignancy Therapy" by Atkins and Srivastava was accompanied by a CE test. The correct answers are as follows.

O. 142	R. 160	U. 173	X. 179
P. 147	S. 165	V. 174	Y. 185
Q. 152	T. 168	W. 176	

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## CONTINUING EDUCATION TESTS #1 and #2

### Answer Sheet

101	111	121	131	141	151	161	171	181	191	201	211	221	231	241
102	112	122	132	142	152	162	172	182	192	202	212	222	232	242
103	113	123	133	143	153	163	173	183	193	203	213	223	233	243
104	114	124	134	144	154	164	174	184	194	204	214	224	234	244
105	115	125	135	145	155	165	175	185	195	205	215	225	235	245
106	116	126	136	146	156	166	176	186	196	206	216	226	236	246
107	117	127	137	147	157	167	177	187	197	207	217	227	237	247
108	118	128	138	148	158	168	178	188	198	208	218	228	238	248
109	119	129	139	149	159	169	179	189	199	209	219	229	239	249
110	120	130	140	150	160	170	180	190	200	210	220	230	240	250

Name \_\_\_\_\_ Title \_\_\_\_\_

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VOICE/Membership No. \_\_\_\_\_ Or Check:  Nonmember—check for \$10 per test enclosed

Today's Date \_\_\_\_\_

Return a copy of this answer sheet no later than **November 15, 1998** to:  
Continuing Education Coordinator, *Journal of Nuclear Medicine Technology*  
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