

Los Angeles Radiological Society
62nd Annual Midwinter Radiology Conference
January 31, 2010

Self Assessment Module on Nuclear Medicine
and PET/CT Case Review

FDG PET/CT IN MALIGNANCIES OF
THE ABDOMEN AND PELVIS: GI AND GU

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Cases 40-52

Introductory comments:

References:

Blake, MA, Singh, A, and Setty, BN et al; Pearls and pitfalls in interpretation of abdominal and pelvic PET-CT. RadioGraphics 2006 26(5):1335-1353

Suzuki, C, Jacobsson, H. and Hatschek, T et al; Radiologic measurements of tumor response to treatment: Practical approaches and limitations. RadioGraphics 2008 28(2):329-344

Case 40: Which is Stage III BRC?

- a) Any T, NI, MO
- b) Any T, Any N, MO
- c) T3, NO, MO
- d) T4, NI, MO

Correct answer: D

Rationale: Practice Guidelines in Oncology. Breast Cancer V.1 2010

References:

Elaini, AB, Shetty, SK and Chapman, VM et al; Improved detection and characterization of adrenal disease with PET-CT. RadioGraphics 2007 27(3):755-767

Ling, SP, Bierhals, AJ and Lewis Jr, JS; Best cases from the AFIP: Metastatic renal cell carcinoma. RadioGraphics 2007 27(6):1801-1807

Case 41: Overall group staging?

- a) I
- b) II
- c) III
- d) IV

Correct answer: D

Rationale: Practice Guidelines in Oncology. Breast Cancer v.1 2010

References:

Boland, GWL, Blake, MA, Hahn, PF and Mayo-Smith, WW; Incidental adrenal lesions: Principles, techniques and algorithms for imaging characterization. Radiology 2008 249(3):756-775

Blake, MA, Slattery, JMA, Kalra, MK, Halpern, EF, Fischman, AJ, Mueller, PR and Boland, GW; Adrenal lesions: Characterization with fused PET/CT image in patients with proved or suspected malignancy – initial experience. Radiology 2006 238(3):970-977

Case 42: Overall group staging:

- a) I
- b) II
- c) III
- d) IV

Correct answer: D

Rationale: Practice Guidelines in Oncology. v.I 2010 Gastric Cancer

References:

Lim, JS, Yung, MJ and Kim, MJ et al; CT and PET in stomach cancer: Preoperative staging and monitoring of response to therapy. RadioGraphics 2006 26(1):143-156

Lee, TY, Kim, MH, Park, DH, Seo, DW, Lee, SK, Kim, JS, and Lee, KT; Utility of 18F-FDG PET/CT for differentiation of autoimmune pancreatitis with atypical pancreatic Imaging findings from pancreatic cancer. American Journal of Roentgenology 2009: 193(2):343-348

Case 43: M-code?

- a) Mo
- b) M1
- c) M1b
- d) M2

Correct answer: B

Rationale: Practice Guidelines in Oncology. V.I 2010 Gastric Cancer

References:

Suzuki, A, Nakamoto, Y, Terauchi, T. et al; Inter-observer variations in FDG-PET Interpretation for Cancer Screening. Japanese Journal of Clinical Oncology. 2007 37(8):616-622

Case 44: Commonest incidentaloma?

- a) Gall stones
- b) Abdominal aortic aneurysm
- c) Thyroid cancer
- d) Colon cancer

Correct answer: A

Rationale: Practice Guidelines in Oncology v.1 2010 Melanoma

References:

Zhang, M, Jian, X, Zhang, M, Xu, H. Zhai, G. and Li, B; The role of 18F-FDG PET/CT in the evaluation of ascites of undetermined origin. J Nucl Med 2009 50(4):506-512

Scarsbrook, AF, Ganeshan, A and Statham, J. et al; Anatomic and functional imaging of metastatic carcinoid tumors. RadioGraphics 2007 27(2):455-476

Case 45: Overall group staging?

- a) I
- b) II
- c) III
- d) IV

Correct answer: D

Rationale: NCCN Practice Guidelines in Oncology v.1 2010 Colon Cancer

References:

Tatlidil, R, Jadvar, H, Bading, JR and Conti, PS; Incidental colonic fluorodeoxyglucose uptake: Correlation with colonoscopic and Histopathologic findings. Radiology 2002 224(3):783-787

Case 46: Duke staging?

- a) C1
- b) C2
- c) D

Correct answer: C

Rationale: NCCN Practice Guidelines in Oncology v.1 2010 Gastric Cancer

References:

Yun, M, Lim, JS, and Noh, SH et al; Lymph node staging of gastric cancer using 18F-FDG PET: A comparison study with CT. J Nucl Med 2005 46(10):1582-1588

Case 47: Overall group staging?

- a) I
- b) II
- c) III
- d) IV

Correct answer: D

Rationale: NCCN Practice Guidelines in Oncology v.1 2010 Gastric Cancer

References:

De Geus-Oei, LF, Vriens, D, van Laarhoven, HWM, van der Graaf, WTA and Oyen, WJG; Monitoring and predicting response to therapy with 18f-FDG PET in colorectal cancer : A systematic review. J Nucl Med 2009 50(1):43S-54S

Case 48: Overall group staging?

- a) I
- b) II
- c) III
- d) IV

Correct answer: D

Rationale: NCCN Practice Guidelines in Oncology v.1 2010 Colon Cancer: Staging

References:

Le, JW, Paeng, JC, and Kang, KW et al; Prediction of tumor recurrence by 18F-FDG PET in liver transplantation for hepatocellular carcinoma. J Nucl Med 2009 50(5):682-687

Case 49: Overall group staging?

- a) I
- b) II
- c) II
- d) IV

Correct answer: D

Rationale: NCCN Practice Guidelines in Oncology Breast Cancer

References:

Nakamoto, Y, Cohade, C, Tatsumi, M. Hammoud, D and Waho, RL; CT appearance of bone metastases detected with FDG PET as part of the same PET/CT examination. Radiology 2005 237(2):627-634

Taira, AV, Herfkens, RF, Gambhir, SS, and Quon, A; Detection of bone metastases: Assessment of integrated FDG PET/CT imaging. Radiology 2007 243(1):204-211

Case 50: Overall group staging?

- e) I
- f) II
- g) III
- h) IV

Correct answer: A

Rationale: NCCN Practice Guidelines in Oncology v.2 2009 Hodgkin Disease/Lymphoma

References:

de Jong, PA, Quarles van Uffoard, HM, Baarslag, HJ, de Haas, MJ, Wittebol, SH, Quekel, LG and de Klerk, JM; CT and 18F-FDG PET for Noninvasive Detection of Splenic Involvement in Patients with Malignant Lymphoma. American Journal of Roentgenology 2009 192(3):745-753

Schaefer, NG, Taverna, C, Strobel, K, Wastl, C, Kurrer, M and Hany, TF; Hodgkin Disease: Diagnostic value of FDG PET/CT after first-line therapy – is biopsy of FDG-avid lesions still needed? Radiology 2007 244(1):257-262

Ben-Haim, S and Eil, P; 18F-FDG PET/CT in the evaluation of cancer treatment response. J Nucl Med 2009 50(1):88-89

Case 51: Overall group staging

- a) I
- b) II
- c) III
- d) IV

Correct answer: D

Rationale: NCCN Practice Guidelines in Oncology v.1 2010 Rectal Cancer

References:

Li Destri, G, Di Benedetto, F, Torrisi, B, Portale, TR, Mosca, F, Vecchio, R, Di Cataldo, AD, and Puleo, S; Metachronous liver metastases and respectability: Fong's Score and laparoscopic evaluation. HPB (Oxford) 2008;10(1)13-17.

Case 52: Overall group staging?

- a) I
- b) II
- c) III
- d) IV

Correct answer: D

Rationale: NCCN Practice Guidelines in Oncology v.1 2010 Anal Carcinoma

References:

Patil, VV, Wang, ZJ, Sollitto, RA, Chuang, KW, Konley, BR, Howkins, RA, and Coakley, FV; 18F-FDG PET/CT of Transitional Cell Carcinoma. American Journal of Roentgenology 2009 193(6):W497-504

Fenchel, S, Grab, D and Nuessle, K et al; Asymptomatic adnexal masses: Correlation of FDG PET and Histopathologic findings. Radiology 2002 223(3):780-788