

네거티브 경구 조영제를 이용한 PET/CT 촬영시 나타난 종양성 섭취와 유사한 생리적 장관 섭취

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Colon Cancer Mimicking Physiologic FDG Uptake : with Using of Negative Oral Contrast

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A 64-year-old female with glioblastoma multiforme (GBM) was assigned to our department for whole body PET/CT scan. She ingested 1 liter of pure water as negative oral contrast just before PET/CT examination. FDG-PET/CT images showed a very intense hypermetabolic, focal lesion in the abdominal cavity around descending colon. The SUVmax of the lesion was 17.2. But there was no abnormal lesion corresponded to the area of PET scan in the combined contrast enhanced CT scan. We suggested considering a malignant lesion due to very intense glycolytic activity. Conventional abdominal CT scan & colonoscopy were accomplished within one week after PET/CT evaluation. There was no abnormality in both examinations. We executed follow-up PET/CT evaluation after 1 month and couldn't find any abnormality around the corresponding area. So we concluded the hypermetabolism was colonic physiologic uptake.

A colonic physiologic uptake is a well known cause of false positive finding. Nuclear physicians should be considered the possibility of malignancy when interpret focal colonic uptake, especially incidental finding.¹⁻³ There are a few reports that using of negative oral contrast is able to reduce gastrointestinal physiologic uptakes.^{4,5} But as we can see in this case, although we used negative oral contrast, intense physiologic uptake is detected and maxSUV is able to up to 17.2. So, it is important to keep a fact in mind. Even though there is a colonic physiologic uptake in PET/CT image, it may be able to show very intense hypermetabolism regardless of using negative oral contrast. (Nucl Med Mol Imaging 2006;40(3):186-187)

Key Words: ¹⁸F-FDG PET/CT, colonic uptake, physiologic uptake, negative oral contrast

References

1. Israel O, Yefremov N, Bar-Shalom R, Kagana O, Frenkel A, Keidar Z, et al. PET/CT detection of unexpected gastrointestinal foci of ¹⁸F-FDG uptake: incidence, localization patterns, and clinical significance. *J Nucl Med.* 2005;46:758-62.
2. Kamel EM, Thumshirn M, Truninger K, Schiesser M, Fried M, Padberg B, et al. Significance of incidental ¹⁸F-FDG accumulations in the gastrointestinal tract in PET/CT: correlation with endoscopic and histopathologic results. *J Nucl Med.* 2004;45:1804-10.
3. Gutman F, Alberini JL, Wartski M, Vilain D, Le Stanc E, Sarandi F, et al. Incidental colonic focal lesions detected by FDG PET/CT. *Am J Roentgenol.* 2005;185:495-500.
4. Otsuka H, Graham MM, Kubo A, Nishitani H. The effect of oral contrast on large bowel activity in FDG PET/CT. *Ann Nucl Med.* 2005;19:101-8.
5. Jeong YJ, Kang DY. The effect of negative oral contrast on stomach, small bowel and large bowel activity in PET/CT scan. *Korean J Nucl Med.* 2005;39:350(abstract).

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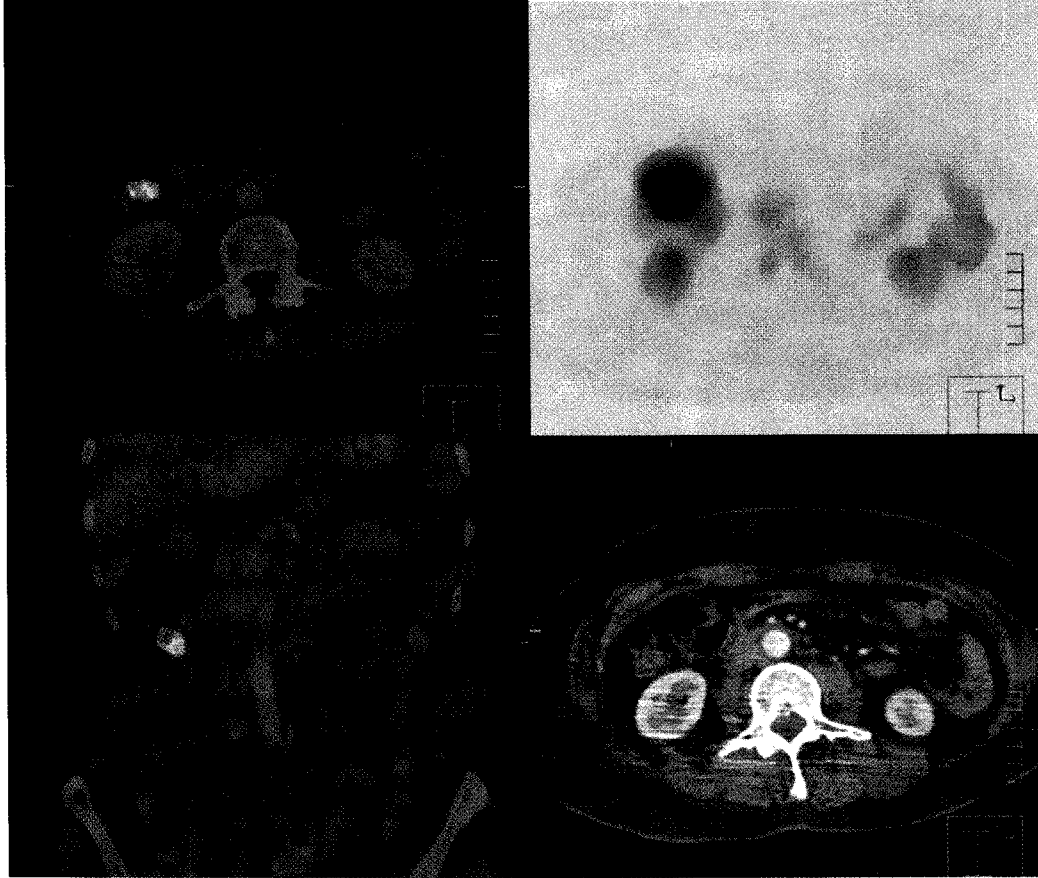


Fig. 1. Coronal PET/CT, transaxial CT and transaxial PET/CT images from 64-year-old woman with GBM. Focal colonic FDG uptake was shown in Rt. colon on PET/CT images. Conventional abdominal CT scan, colonoscopy and follow up PET/CT scan were negative. Also the patients showed no evidence of disease after 3 months of follow up.