

대장암 초승달 궤양에 나타난 높은 ^{18}F -FDG 섭취의 조직병리학적 검토: 1예보고

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Histopathological Analysis of High ^{18}F -FDG Uptake in Meniscoid Ulcer of Colon Carcinoma: Report of A Case

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Key Words: Meniscus sign PET/CT Pathology

Prominent ^{18}F -fluorodeoxyglucose (^{18}F -FDG) accumulation has been reported to occur in meniscoid ulcer of gastric carcinoma.¹⁾ A mouse-model study carried out by Kubota et al.²⁾ revealed that inflammatory cells, particularly macrophages, in necrotic tumor accumulates ^{18}F -FDG more avidly than viable tumor cells. A search of literature failed to disclose earlier publication reporting histological study on such high ^{18}F -FDG metabolism in patient with ulcerating colon cancer. This communication presents prominent ^{18}F -FDG uptake observed in relation with chronic inflammation in meniscoid ulcer of sigmoid colon carcinoma. Cross correlation of PET findings with those of CT scan and colonoscopy showed that the high ^{18}F -FDG uptake was localized to ulcerated part of tumor and not in heaved-up border that was not ulcerated. Histopathology of removed tumor revealed that the denuded bottom of ulcer consisted of a thick layer of submucosal tissue diffusely infiltrated with inflammatory cells.

The meniscoid malignant ulcer, originally described in 1921 by Carman³⁾ and re-studied in detail by Kirklin⁴⁾, is

created by barium filling of crescent defect of ulcerating gastric carcinoma. Since then the sign has long been appreciated as a clue of ulcerating gastric carcinoma. In the meantime, the sign has also been reported to occur in the carcinomas of the esophagus by Gloyna et al.⁵⁾ and the colon by Siskind and Burrell.⁶⁾

Case presentation

A 45-year-old female visited Sung-Ae Hospital because of year long, ill-defined, on-and-off type lower abdominal distress and pain which recently became worsened with constipation. Vital signs were stable and routine laboratory tests were within normal limits. Colonoscopy disclosed a large friable tumor with luminal narrowing in the sigmoid colon at the level of 30 cm above the anal verge. Tumor center was ulcerated and the ulcer was meniscoid in shape (Fig. 1A). Colonofiberscope could not be advanced beyond the narrowed portion. Histopathological diagnosis of biopsy specimen was moderately differentiated adenocarcinoma (Fig. 1B). PET-CT performed ten days later for tumor staging revealed a large lobular tumor with a meniscoid ulcer in the sigmoid colon (Fig. 1C). The ulcer measured 4.5 cm in the greatest dimension and was bordered by heaved-up tumor. ^{18}F -FDG metabolism was markedly

- Received: 2008. 4. 9. • Accepted: 2008. 4. 15.
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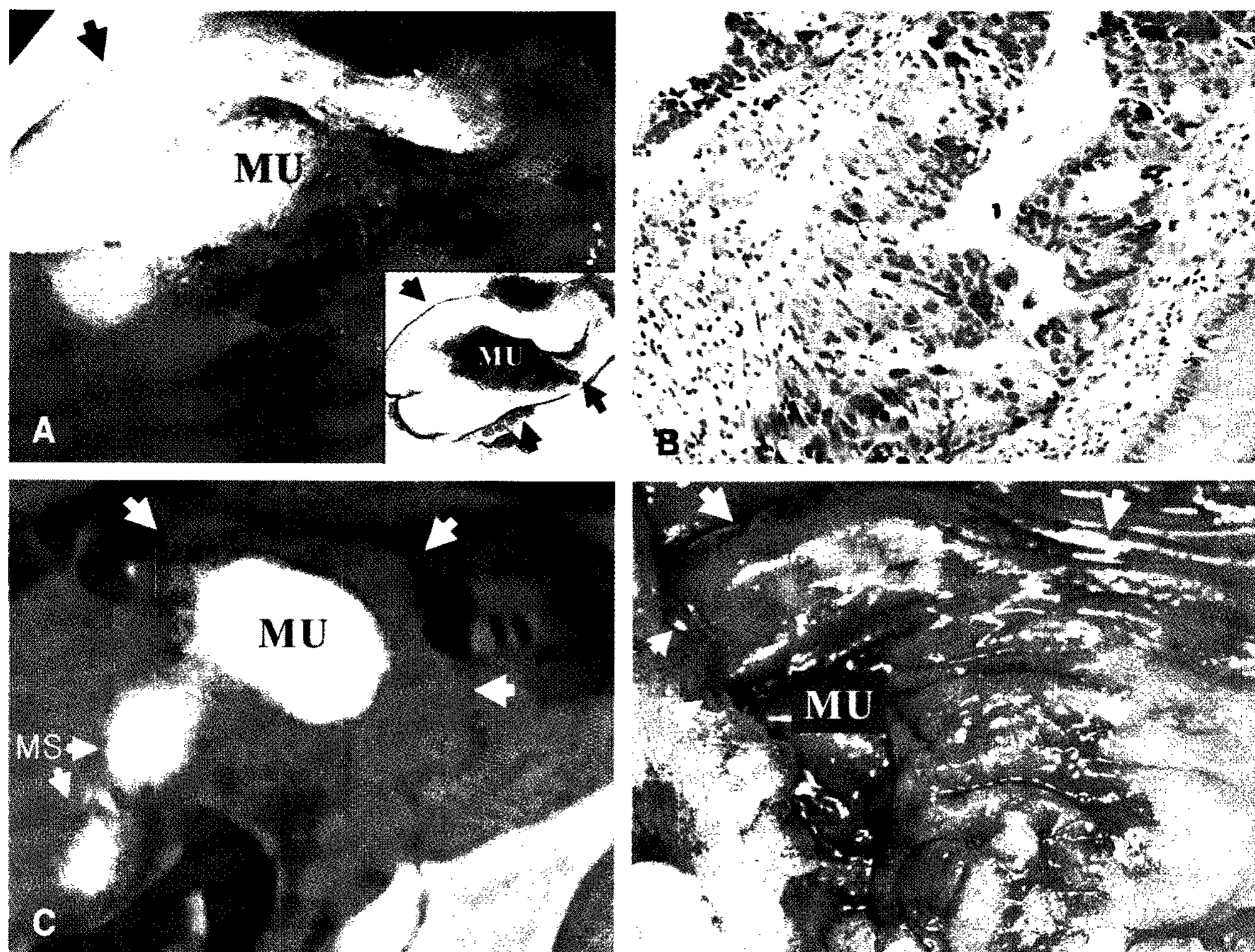


Figure 1. Moderately differentiated ulcerating adenocarcinoma of the sigmoid colon. (A) Colonoscopy shows a meniscoid ulcer (MU) in extramucosal tumor (arrows). Ulcer surface is partly covered with fecal fibers. Inset reveals meniscoid ulcer (MU) bordered by heaved-up tumor mass. (B) Photomicrograph of biopsy specimen shows moderately differentiated adenocarcinoma (HE stain, original $\times 100$). (C) PET/CT reveals high ^{18}F -FDG uptake in ulcerated portion of tumor (MU) (SUV initial = 6.3max delayed=9.5max) and insignificant uptake in not ulcerated portion of the tumor (SUV initial=1.3max delayed=1.5max) (arrows). MS denotes mesenteric spread (D). Opened sigmoid colon shows meniscoid ulcer (MU) surrounded by heaved-up tumor mass (large arrows). Ulcer is overshadowed by opened margin on the left (small arrows).

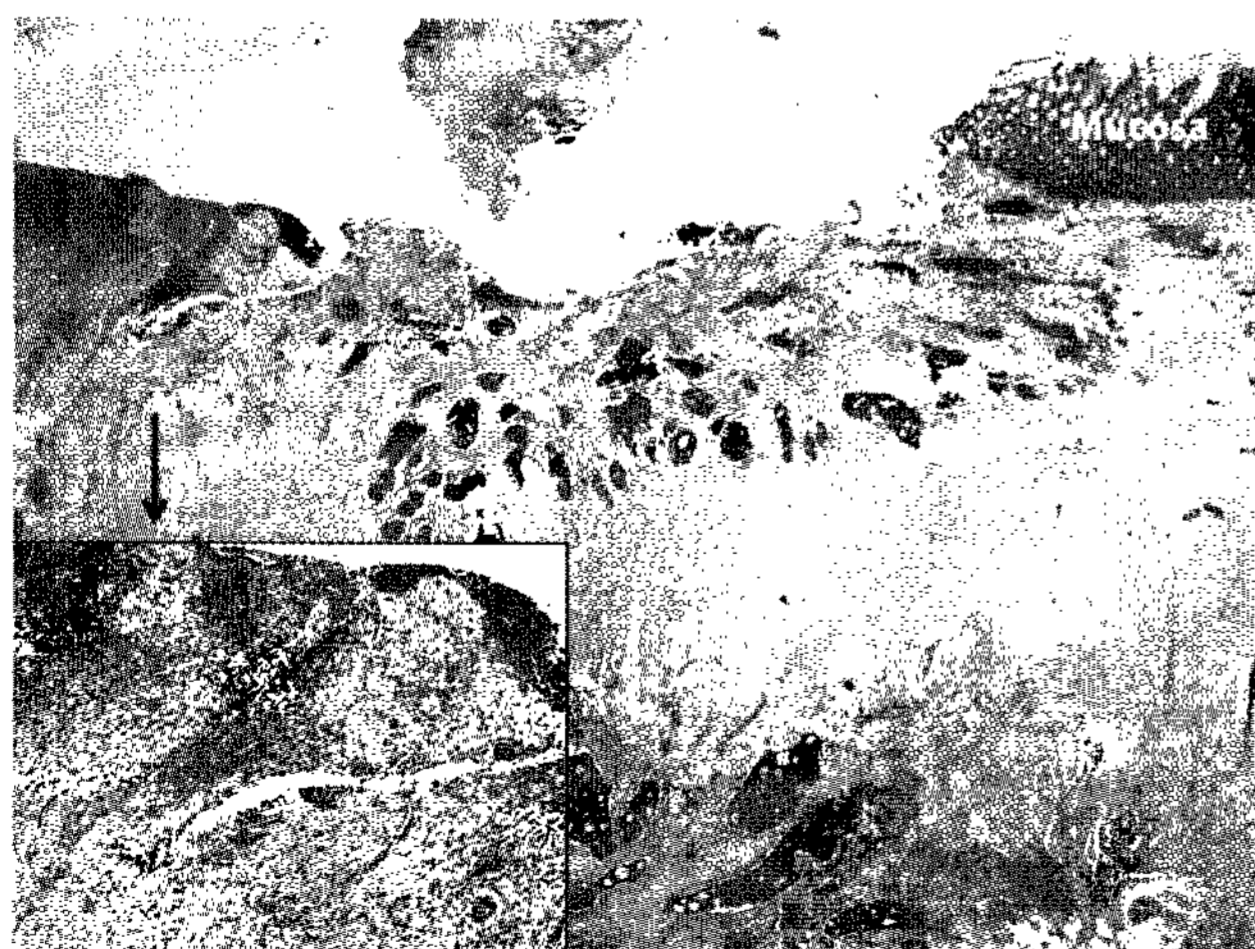


Figure 2. Low power photomicrograph of a typical portion of denuded ulcer basin (white arrows) shows submucosal layer to be thickly infiltrated with ^{18}F FDG avid inflammatory cells. Note that cancer cells are sparse. Inset is magnified view of the left lateral sector of submucosal layer. Inset is magnified view.

increased in the ulcerated portion of the tumor (initial SUV=7.4 and delayed SUV=9.5) but not in heaved-up portion (initial SUV=1.3max delayed SUV=1.5max.) There were two small foci of regional mesenteric spreads (SUV=4.2max). No distant site metastasis was seen. The specimen removed by operation confirmed the presence of meniscoid ulceration and mesenteric seeding (Fig. 1D). Microscopic examination showed denuded ulcer base to consist of submucosal tissue infiltrated with densely populated chronic inflammatory cells and sparse cancer cells (Fig. 2).

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