

48

CT , CT, PET - CT, MRI

가 가 가

(1).  
(tenesmus),

48 가 4

가

graphy)

(Lymphoscinti-  
가

(mesenteric LN)

. CT -

(internal iliac vessel)

(left common iliac vein)  
(IVC)

(2).

4 cm

2.5 cm

10 cm

3 -

4 cm

가

가

(poorly differentiated adenocarcinoma)

(positron emission tomography - computed tomography,  
PET - CT)

(3).

5.5 cm

CT

5 cm

(left common iliac vein)

(CT),

(MRI),

, 7

, PET - CT

2 cm가

1  
2  
3  
4

2008 6 17

2008 8 18

(Fig. 1A, B). PET - CT  
pSUV(peak standard uptake value)11.5

가 , (dissemination)  
가 가 (internal jugular vein)

(Fig.

1C). MRI , T1  
, T2  
가 (Fig. 1D). 가  
(Gd - DTPA) 가

(Fig. 1E).

USG) , (Doppler  
가 ,



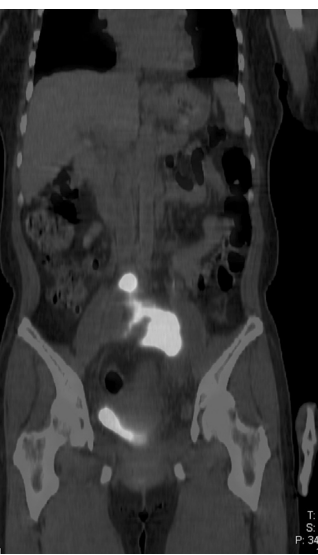
A



B



C



D

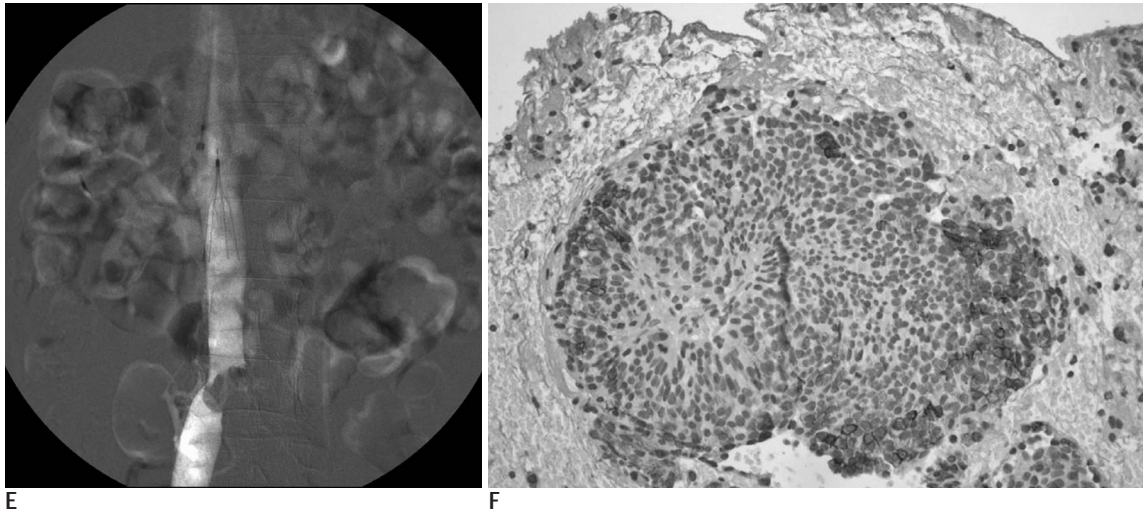
**Fig. 1.** 48-year-old woman with rectal cancer.

A. Axial contrast-enhanced CT scan shows irregular enhancing wall thickening of rectum with tumor infiltration in the perirectal fat.

B. Coronal image of portal phase-CT scan reveals tumor thrombus in IVC and left iliac vein showing enhancing solid mass in dilated lumen.

C. Axial and coronal fusion image from a PET/CT scan performed with 12.6 mCi(466.2 MBq) FDG demonstrate focal linear FDG uptake in the inferior vena cava corresponding exactly to the extent of the thrombus seen on the CT image.

D. Coronal T2-weighted MR image shows heterogenous hyperintense thrombus in IVC and left iliac vein.



**Fig. 1. E.** Venography shows thrombi in IVC and left common iliac vein. Biopsy of thrombus was performed at left iliac vein. IVC filter was inserted at infra-renal level through right internal jugular vein to prevent tumor embolism before anticancer therapy. **F.** Immunohistochemical staining of the tumor cells reveals positivity for cytokeratin 20 (× 200).

(Fig. 1F).

8.1%

CT

2 LV(leukovorin)+5 - FU(5 - fluorouracil)

## MRI

3

(8).

CT

가

가

가

가

30 - 40%

가

가

(9),

(SLE)

가

가

가

(4, 5).

가

가

가

“ thread and streak sign ”

, CT

(10),      가

PET - CT

(3).

가

CT, MRI, PET - CT,

(internal jugular vein)

가

1865      Armand

Trousseau

### Trousseau 's syndrome

,  
 (tissue factor),  
 (oncogene)

가 (mucin),  
(cytokine) 가

(6).

Henrik (7)

1. . : . 2007

2. Thoeni RF, Laufer I. *Polyps and Colon Cancer*. In Gore RM, Levine MS. *Textbook of gastrointestinal radiology*. 3rd ed. Philadelphia: Saunders/Elsevier, 2008:1121-1167

3. Gupta P, Kramer EL, Ponzo F. FDG uptake in tumor thrombus in inferior vena cava from rectal cancer on positron emission tomography. *Clin Nucl Med* 2005;30:342-343

4. Gomez Raposo C, Mora Rillo M, Gomez Senent S, Robles

- Maruhenda A, Montoya F, Garcia Puig J, et al. Brain metastases as the first sign of colon cancer. *Cin Transl Oncol* 2007;9:742-743
5. Karahan OI, Kahriman G, Soyuer I, Erdogan N, Akcan AC. Inferior vena cava obstruction due to cecum adenocarcinoma. *Clin Imaging* 2007;31:44-46
6. Varki A. Trousseau's syndrome: multiple definitions and multiple mechanisms. *Blood* 2007;110:1723-1729
7. Sorensen HT, Mellemkjaer L, Olsen JH, Baron JA. Prognosis of cancers associated with venous thromboembolism. *N Engl J Med* 2000;343:1846-1850
8. Didier D, Racle A, Etievent JP, Weill F. Tumor thrombus of the inferior vena cava secondary to malignant abdominal neoplasms: US and CT evaluation. *Radiology* 1987;162:83-89
9. Coilly A, Nahon S, Caugant H, Richer R, Lesgourgues B, Delas N. Portal vein thrombosis 1 month after a sigmoidectomy for colon cancer revealing an antiphospholipid antibody syndrome. *Eur J Gastroenterol Hepatol* 2007;19:519-520
10. Mathieu D, Grenier P, Larde D, Vasile N. Portal vein involvement in hepatocellular carcinoma: dynamic CT features. *Radiology* 1984;152:127-132

J Korean Radiol Soc 2008;59:265 - 268

## Rectal Cancer Presenting Tumor Thrombosis in the Inferior Vena Cava and Common Iliac Vein: Case Report<sup>1</sup>

Sun Jung Rhee, M.D., Seong Jin Park, M.D., Hae Kyung Lee, M.D., Boem Ha Yi, M.D., Sung il Park, M.D., Soo Jin Hong, M.D.<sup>2</sup>, Hee Kyung Kim, M.D.<sup>3</sup>, Jeong Mi Park, M.D.<sup>4</sup>

<sup>1</sup>Department of Radiology, Soonchunhyang University Hospital Bucheon

<sup>2</sup>Department of Internal Medicine, Soonchunhyang University Hospital Bucheon

<sup>3</sup>Department of Pathology, Soonchunhyang University Hospital Bucheon

<sup>4</sup>Department of Nuclear Medicine, Soonchunhyang University Hospital Bucheon

We report the radiologic findings of a rectal carcinoma case with tumor thrombus in the inferior vena cava and left common iliac vein of a 48-year-old woman. The patient complained of swelling in the left leg and consequently underwent a lymphoscintigraphy, CT venography, abdominal CT, PET-CT, pelvis MRI, and ultrasound doppler. The rectal cancer was determined via a colonoscopy. The tissue biopsy of tumor thrombus in the IVC was done during insertion of IVC filter and poorly differentiated adenocarcinoma was revealed by pathology.

**Index words :** Colorectal cancer

Computed tomography, X-Ray

Magnetic resonance (MR)

Vein, iliac

Vena cava, inferior

Address reprint requests to : Seong Jin Park, M.D., Department of Radiology, Soonchunhyang University Hospital Bucheon, 1174, Jung-dong, Wonmi-gu, Bucheon-si, Gyeonggi-do 420-767, Republic of Korea.  
Tel. 82-32-621-5851 Fax. 82-32-621-5874 E-mail: indawn@hanafos.com