

(desmoid tumor)

CD 34

(desmoid tumor)

(Magnetic resonance, MR)

MR

T1, T2

T1

x 6 cm

가

T1

8

T2

가

(Fig. 1A).

T1

10

72

가 3

(Computed tomography, CT)

(carcinoembryonic antigen)

0.36 ng/mL

6

T2
가 CT

MR

(Fig. 1B).

10

(erosion)

11

1
2
3

2007 3 1

2007 5 7

integrated fluorine-18 fluorodeoxyglucose positron

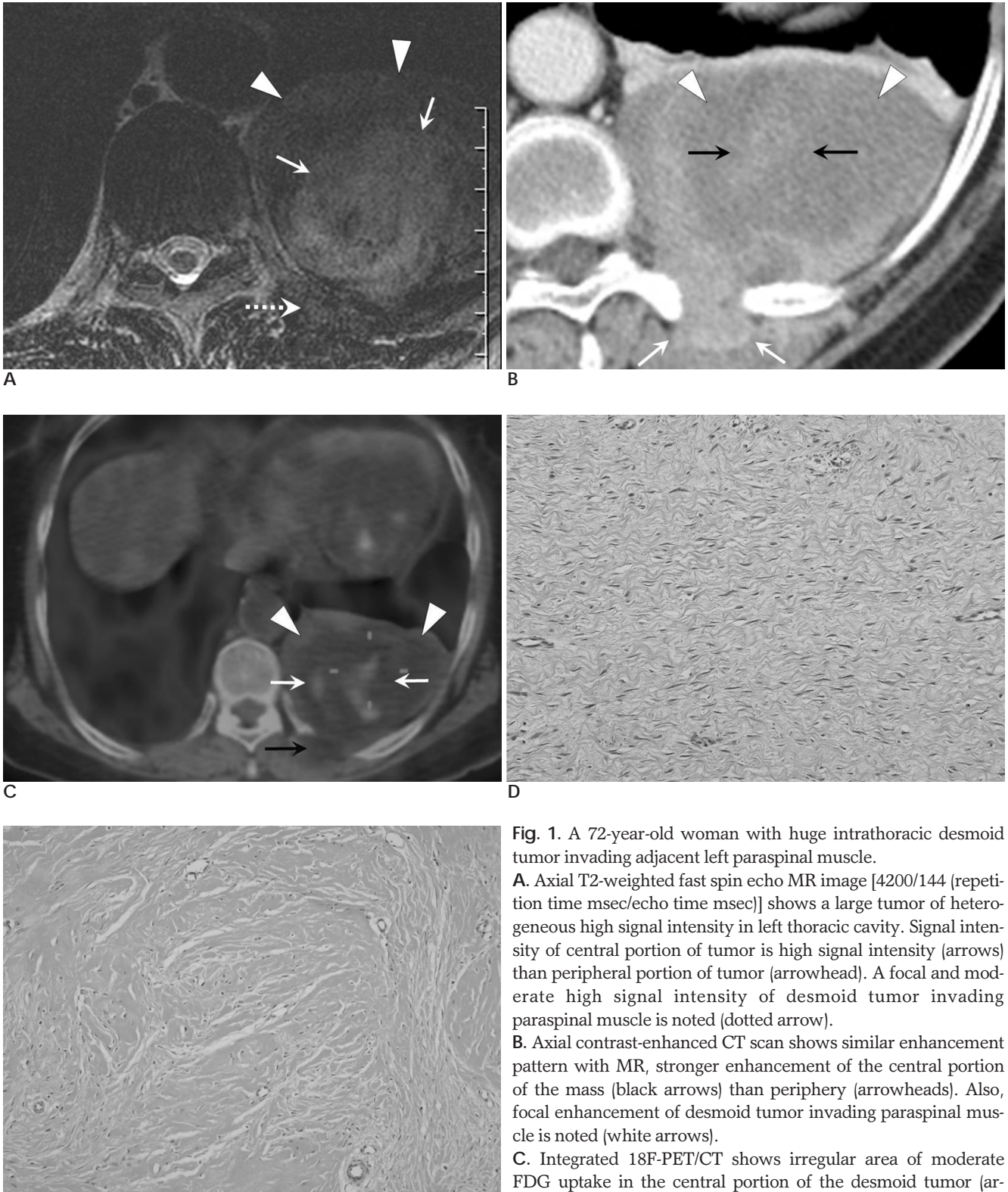


Fig. 1. A 72-year-old woman with huge intrathoracic desmoid tumor invading adjacent left paraspinal muscle.

A. Axial T2-weighted fast spin echo MR image [4200/144 (repetition time msec/echo time msec)] shows a large tumor of heterogeneous high signal intensity in left thoracic cavity. Signal intensity of central portion of tumor is high signal intensity (arrows) than peripheral portion of tumor (arrowhead). A focal and moderate high signal intensity of desmoid tumor invading paraspinal muscle is noted (dotted arrow).

B. Axial contrast-enhanced CT scan shows similar enhancement pattern with MR, stronger enhancement of the central portion of the mass (black arrows) than periphery (arrowheads). Also, focal enhancement of desmoid tumor invading paraspinal muscle is noted (white arrows).

C. Integrated 18F-PET/CT shows irregular area of moderate FDG uptake in the central portion of the desmoid tumor (arrows, peak SUV=4.7) and low FDG uptake in the periphery of the desmoid tumor (arrowheads). Focal FDG uptake in the area of paraspinal muscle involvement is noted (black arrow).

D. Central portion of desmoid tumor depicts an area of moderate cellularity containing intersecting fascicles of bland spindle cells in loose mucoid matrix (Hematoxylin-eosin, $\times 200$).

E. Peripheral portion of desmoid tumor shows an area of denser collagen formation with spindle cell of small cytoplasm (Hematoxylin-eosin, $\times 200$).

emission tomography and computed tomography (integrated 18F - PET/CT)

grade malignant tumor) 가 (low (7). MR T1
 (Fig. 1C). T2 , T2
 (CD 34), (wide (6). , T2
 excision) .
 (8). integrated 18F - PET/CT
 , 2.77 ± 1.32 SUV
 가 (9).
 (trabeculation) 8 cm (myxoid) 가 T2
 (spindle shape stromal cell) 가
 CD34 가
 (fibroblast) ,
 (myofibroblast) 가 (Fig. 1D). ,
 가 , 가
 가 , (cellularity) (Fig. MIB - 1 , 가
 1E). 6 - 7 가 1 - 2 (400)
 가 (6, 8), 가
 2 - 4 , 가
 (1). , (2, 3), , 80%가
 , 가
 (3), , 가
 (superior mediastinum) 가
 (right brachiocephalic artery), (right common (10).
 carotid artery) 가 , (vimentin), (alpha smooth
 (4). , , , , muscle actin) , (desmin)
 (5). (11).
 가 CD34 (11).
 CT ,
 가 23% - 45% 가 (3, 5).
 (6). 가

(2).

가 가

1. Reitamo JJ, Hayry P, Nykyri E, Saxen E. The desmoid tumor. I. Incidence, sex-, age- and anatomical distribution in the Finnish population. *Am J Clin Pathol* 1982;77:665-673
2. Ohashi T, Shigematsu N, Kameyama K, Kubo A. Tamoxifen for recurrent desmoid tumor of the chest wall. *Int J Clin Oncol* 2006; 11:150-152
3. Pignatti G, Barbanti-Brodano G, Ferrari D, Gherlinzoni F, Bertoni F, Bacchini P, et al. Extraabdominal desmoid tumor. A study of 83 cases. *Clin Orthop Relat Res* 2000:207-213
4. Cardoso PF, da Silva LC, Bonamigo TP, Geyer G. Intrathoracic desmoid tumor with invasion of the great vessels. *Eur J Cardiothorac Surg* 2002;22:1017-1019
5. Merchant NB, Lewis JJ, Woodruff JM, Leung DH, Brennan MF. Extremity and trunk desmoid tumors: a multifactorial analysis of outcome. *Cancer* 1999;86:2045-2052
6. Tateishi U, Gladish GW, Kusumoto M, Hasegawa T, Yokoyama R, Tsuchiya R, et al. Chest wall tumors: radiologic findings and pathologic correlation: part 2. Malignant tumors. *Radiographics* 2003; 23:1491-1508
7. 1999;41:1189-1194
8. Healy JC, Reznick RH, Clark SK, Phillips RK, Armstrong P. MR appearances of desmoid tumors in familial adenomatous polyposis. *AJR Am J Roentgenol* 1997;169:465-472
9. Aoki J, Watanabe H, Shinozaki T, Takagishi K, Tokunaga M, Koyama Y, et al. FDG-PET for preoperative differential diagnosis between benign and malignant soft tissue masses. *Skeletal Radiol* 2003;32:133-138
10. Jeung MY, Gangi A, Gasser B, Vasilescu C, Massard G, Wihlm JM, et al. Imaging of chest wall disorders. *Radiographics* 1999;19:617-637
11. Andino L, Cagle PT, Murer B, Lu L, Popper HH, Galateau-Salle F, et al. Pleuropulmonary desmoid tumors: immunohistochemical comparison with solitary fibrous tumors and assessment of beta-catenin and cyclin D1 expression. *Arch Pathol Lab Med* 2006; 130:1503-1509

Intrathoracic Desmoid Tumor: A Case Report and Radiological Evaluation¹

Min Ji Kim, M.D. , Kyung Joo Park, M.D. , Joo Sung Sun, M.D. , Jang Hee Kim, M.D.² , Ho Choi, M.D.³

¹*Department of Radiology, Ajou University School of Medicine*

²*Department of Pathology, Ajou University School of Medicine*

³*Department of Thoracic and Cardiovascular Surgery, Ajou University School of Medicine*

Desmoid tumors are rare soft tissue tumors arising from the fascia or from musculoaponeurotic structures. They are commonly seen in the extremities, but are rarely found in the thorax. Thoracic desmoid tumors commonly arise from the chest wall and rarely in the thoracic cavity. Imaging diagnosis of an intrathoracic desmoid tumor is difficult because there are no specific imaging findings for a desmoid tumor that can be differentiated from the various tumors of the chest wall, including a solitary fibrous tumor of the pleura. All desmoid tumor cells show negative immunohistochemical staining for CD34 in pathological specimen, a feature that makes it possible to differentiate a desmoid tumor from a solitary fibrous tumor of the pleura. Desmoid tumors are locally aggressive and the rate of local recurrence is very high. Consequently, wide radical resection is required and a preoperative accurate diagnosis of desmoid tumors is warranted. We describe the radiological findings of various imaging studies for an intrathoracic desmoid tumor. Our findings should facilitate a proper diagnosis of desmoid tumors.

Index words : Neoplasms

Desmoid

Thorax

Computed tomography (CT)

Magnetic resonance (MR)

Address reprint requests to : Joo Sung Sun, M.D., Department of Radiology, Ajou University School of Medicine,
Wonchon-dong, Yeoungtong-gu, Suwon 443-721, Republic of Korea.
Tel. 82-31-219-5850 Fax. 82-31-219-5862 E-mail: sunnahn@ajou.ac.kr