

## Peritoneal Lymphomatosis Imaged by F-18 FDG PET/CT

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**Abstract** Peritoneal lymphomatosis is uncommon, but when encountered is associated with aggressive histological subtypes of high-grade lymphoma, such as small-cell, large-cell, mixed large and small cell, non-cleaved, lymphoblastic Burkitt-like, and diffuse large B cell lymphomas. The CT findings of peritoneal lymphomatosis are linear or nodular peritoneal thickening, retroperitoneal lymphadenopathy, omental and mesenteric involvement with streak-like infiltrations or a bulky

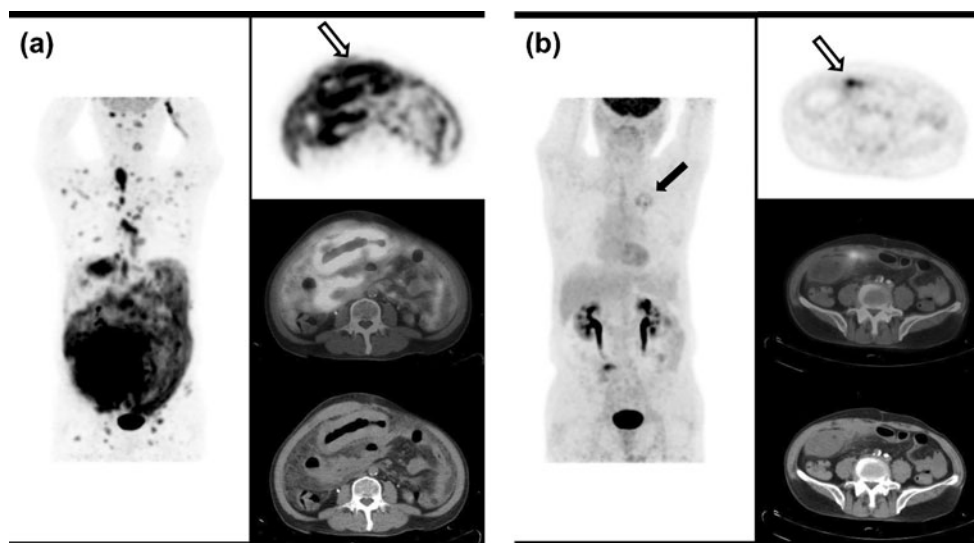
mass, bowel wall thickening, hepatosplenomegaly, and ascites. The authors report the first FDG PET/CT images of diffuse large B-cell lymphoma of small bowel origin associated with peritoneal lymphomatosis in a 69-year-old man. The lesions demonstrated intense FDG uptake in PET/CT images.

**Keywords** Peritoneal lymphomatosis · Lymphoma · FDG · PET

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**Fig. 1** A 69-year-old man presented with abdominal distension, weight loss, and night sweating. **a** F-18 FDG PET/CT images demonstrated an extensive, intensive hypermetabolism in the circumferentially thickened wall of the mid portion of the ileum (*white arrow*), an abdominal wall mass due to direct invasion of the ileum, hazy omentum and mesentery, peritoneal nodules, abdominal and pelvic lymph nodes, mediastinal lymph nodes, thyroid gland, and bones. The maximum standardized uptake value (maxSUV) of the ileal lesion was 12.6. A biopsy at the ileum revealed diffuse large B-cell lymphoma. **b** This follow-up F-18 FDG PET/CT scan was taken after two cycles of R-CHOP (rituximab, cyclophosphamide, doxorubicin, vincristine, prednisolone) therapy. Most of the lymphoma lesions showing hypermetabolism initially were markedly improved, but residual hypermetabolic lesions (maxSUV 5.9) were observed in the ileal loop and mesentery (*white arrow*). The mild hypermetabolic

mass lesion in the left upper lung was found to be tuberculous granuloma (*black arrow*). Peritoneal lymphomatosis is uncommon [1], but when encountered is associated with aggressive histological subtypes of high-grade lymphoma, such as small-cell, large-cell, mixed large and small cell, non-cleaved, lymphoblastic Burkitt-like, or diffuse large B cell lymphoma [2–4]. Findings of peritoneal lymphomatosis on CT are linear or nodular peritoneal thickening, retroperitoneal lymphadenopathy, omental and mesenteric involvement with streak-like infiltrations or a bulky mass, bowel wall thickening, hepatosplenomegaly, and ascites [1, 5, 6]. Here, we present for the first time the F-18 FDG PET/CT images of diffuse large B-cell lymphoma of small bowel origin associated with peritoneal lymphomatosis, which demonstrated intense FDG uptake in PET/CT images

## References

- Kim YS, Cho OK, Song SY, Lee HS, Rhim HC, Koh BH (1998) Peritoneal lymphomatosis: CT findings. *Abdom Imaging* 23:87–90
- Horger M, Muller-Schimpfle M, Yirkin I, Wehrmann M, Claussen CD (2004) Extensive peritoneal and omental lymphomatosis with raised CA 125 mimicking carcinomatosis: CT and intraoperative findings. *Br J Radiol* 77:71–73
- Wong S, Sanchez TR, Swischuk LE, Huang FS (2009) Diffuse peritoneal lymphomatosis: atypical presentation of Burkitt lymphoma. *Pediatr Radiol* 39:274–276
- Weng SC, Wu CY (2008) Lymphoma presenting as peritoneal lymphomatosis with ascites. *J Chin Med Assoc* 71:646–650
- Lynch MA, Cho KC, Jeffrey RB Jr, Alterman DD, Federle MP (1988) CT of peritoneal lymphomatosis. *Am J Roentgenol* 151:713–715
- Karaosmanoglu D, Karcaaltincaba M, Oguz B, Akata D, Ozmen M, Akhan O (2009) CT findings of lymphoma with peritoneal, omental and mesenteric involvement: peritoneal lymphomatosis. *Eur J Radiol* 71:313–317