RE: Imaging Features of Hepato-Splenic Amyloidosis at PET/CT

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Regarding the imaging of hepatic amyloidosis with PET/CT, we read with interest the case report by Son and colleagues (1) in the Sep-Oct 2011 issue of the Korean Journal of Radiology. A few points need to be discussed with more detail. First, although the enhanced CT scan of the spleen exhibited a decreased and diffuse parenchymal attenuation, this observation was not sufficiently emphasized within the manuscript. The radiological finding of splenic hypoperfusion has been well described in the literature as a marker of systemic amyloidosis, which presents a useful clue when clinical findings fail to determine the proper diagnosis (2). In the case reported by Son and colleagues, if the radiologist had immediately suggested the correct diagnostic hypothesis, the patient would have been directed to have the appropriate

laboratory examinations conducted. Specifically, the abdominal fat aspirate test which would have eliminated the need for the PET/CT scan and a risky invasive procedure such as a liver biopsy.

The PET/CT images revealed a marked and diffuse increase in the ¹⁸F-FDG uptake in the enlarged liver. How do the Authors explain this finding considering the diagnosis of the disease which is characterized by the deposition and storage of an amorphous substance including amyloid? Did the compressed hepatic cells and the encased bile duct epithelium increase the glucose metabolism or was the amyloid deposition accompanied by the inflammation due to the infiltration of cells? The authors might offer us an hypothesis about the physio-pathological mechanism causing the ¹⁸F-FDG uptake in the amyloidotic liver.

REFERENCES

1. Son YM, Choi JY, Bak CH, Cheon M, Kim YE, Lee KH, et al. ¹⁸F-FDG PET/CT in primary AL hepatic amyloidosis associated with multiple myeloma. *Korean J Radiol* 2011;12:634-637
2. Mainenti PP, Camera L, Nicotra S, Cantalupo T, Soscia E, Di Vizio D, et al. Splenic hypoperfusion as a sign of systemic amyloidosis. *Abdom Imaging* 2005;30:768-772

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Response

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Dear Editor:

We read the letter from Dr. Mainenti regarding our case report (1) and we have some comments that we would like to address. We agreed that the splenic hypoperfusion on the enhanced CT scan may be a marker of systemic amyloidosis (2). Our radiologists also mentioned this finding. However, in this patient, from the PET/CT and liver biopsy, the possibility of hidden malignancy was inevitably ruled out, because the cytological exam of ascitic fluid that was performed at the outside hospital, before admission to our hospital, showed suspicious findings for adenocarcinoma. Repeated cytological exam of ascitic fluid,

which was performed at our hospital, showed no evidence of malignancy. Further, After the PET/CT scan and liver biopsy, further work-up was done for systemic amyloidosis.

There were no previous studies explaining the exact uptake mechanism of 18F-FDG in amyloidosis. Our case report simply suggested that the 18F-FDG uptake was diffusely increased in the liver with amyloidosis. Further research dealing with the uptake mechanism of 18F-FDG in amyloidosis is warranted.

REFERENCES

1. Son YM, Choi JY, Bak CH, Cheon M, Kim YE, Lee KH, et al. 18F-FDG PET/CT in primary AL hepatic amyloidosis associated with multiple myeloma. *Korean J Radiol* 2011;12:634-637
2. Mainenti PP, Camera L, Nicotra S, Cantalupo T, Soscia E, Di Vizio D, et al. Splenic hypoperfusion as a sign of systemic amyloidosis. *Abdom Imaging* 2005;30:768-772