Hodgkin lymphoma with co-existing extramedullary haematopoiesis in a Thalasaemia Major patient: Killing two birds with one stone using PET-CT

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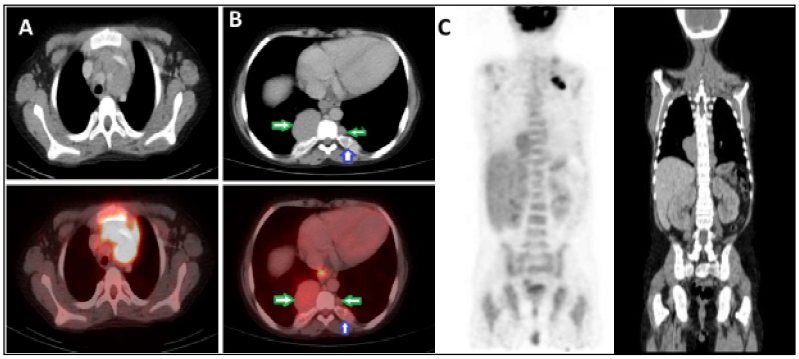
Abstract

Hodgkin lymphoma is a high grade lymphoma which is usually confined to the lymphnodes. Extranodal involvement of the Hodgkin lymphoma is uncommon but any organ can be involved.. Extramedullary haematopoiesis is the production of red cells outside the medullary cavity in response to failure of erythrogenesis in bone marrow which can occur due to many diseases with thalassaemia and myelofibrosis being most common. We present a case of a 21 year old patient who underwent PET-CT scan for the staging of Hodgkin lymphoma and revealed co-existing extramedullary haematopoiesis secondary to known thalassaemia.



Keywords: Thalassemia, Extramedullary hematopoiesis, Hodgkin lymphoma.

A 21-year-old male;with biopsy proven classic Hodgkin lymphoma (lymphocyte-rich cell) underwent staging by PET-CT scan showing hypermetabolic cervical and mediastinal lymphadenopathy above the diaphragm - SUV 11.8 (Figure A) and soft tissue density well defined paraspinal masses (green arrow) showing FDG uptake equal to hepatic activity- SUV 2.5 (Figure B). Medullary expansion of multiple posterior ribs showing trabeculated lace-like pattern (blue arrow) (Figure B). Additionally, there was hepatomegaly with diffusely hyperdense liver representing haemochromatosis (Figure C). Spleen was surgically removed. So, on the basis of these findings and known history of multiple blood transfusions, the diagnosis of extramedullary haematopoiesis with haemochromatosis secondary to thalassaemia was given.

Hodgkin lymphoma is a type of high grade lymphoma usually presenting with lymphadenopathy which is significantly FDG avid on PET imaging. The degree of FDG uptake depends on the mitotic rate of the cells. The greater the proliferation index the higher the degree of uptake; thus making FDG PET a highly sensitive and well validated imaging modality for evaluation of Hodgkins lymphoma.

EMH is the process of erythropoiesis outside bone marrow in response to the inadequate erythrogenesis.[2] Many conditions have been described which are associated with EMH like thalassaemia, sickle cell disease, hereditary spherocytosis, Hodgkin disease, myelofibrosis, polycythemia vera etc.[3] The most frequent sites of EMH are spleen, liver and occasionally lymph nodes; within the thoracic cavity EMH presents as tumour-like well defined, smooth or lobulated paraspinal masses.[4] It is worth mentioning here that paraspinal masses of EMH show only mild FDG activity as compared to metastases or malignancies which are significantly avid on FDG PET scans.[5]

References

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