Clinical summary

• Female 63 year-old presenting with intermittent low grade fever, tiredness, weight loss and right leg pain.

• Physical exam reveals no adenopathy or splenomegaly.

• She had a remote history of Chronic Lymphocytic Leukemia.

• PET/CT performed for further staging.
PET/CT findings (1)

What is your impression of the FDG avid mass in the right gluteus extending along the nerves?

A) Lymphoma
B) Abscess
C) Leukemia
D) Soft tissue sarcoma
Gluteal mass biopsy

Answer: A) Lymphoma
Discussion

- Patients with CLL developing unexplained fever, weight loss, increasing LDH and adenopathy are suspected of transforming into a diffuse large cell lymphoma or Richter’s Transformation.

- Diagnosis is by biopsy of enlarged nodes.

- Treatment is immunochemotherapy.

- FDG PET/CT can detect Richter’s Transformation into diffuse large cell lymphoma with high sensitivity and high negative predictive value.

- FDG PET/CT can exclude this diagnosis or direct a confirmatory biopsy which will determine proper therapy.

http://humanhealth.iaea.org
What is your impression of the FDG avid nodule in the right breast?

A) Lymphoma
B) Abscess
C) Leukemia
D) Breast cancer
US guided biopsy of right breast

Answer: A) Lymphoma
Discussion

• Breast lymphoma is rare and comprise 0.15% of malignant mammary tumours.

• Secondary breast lymphoma is more common (extramammary origin).

• Usually non-calcified on mammography.

• Typically irregular, hypoechoic, hypervascular, and have indistinct margins or an echogenic boundary on sonography.

• FDG PET/CT in patients with breast lymphoma usually demonstrate intense hypermetabolism.

• FDG PET/CT can demonstrate a reduction in FDG uptake in response to therapy in breast lymphoma.

http://humanhealth.iaea.org
What is your impression of the FDG uptake in the pituitary?

A) Lymphoma
B) Adenoma
C) Post-proton radiotherapy
D) Meningioma

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Answer: B) Adenoma

- Pituitary adenomas comprise 10% of intracranial tumours.

- Diagnosed when visual problems arise or are seen on imaging (MR).

- Classified depending on secreted hormones or immunohistological staining.

- They are FDG avid.
Teaching points

- Patients with Chronic lymphocytic leukemia may develop lymphoma (Richter’s transformation).
- FDG PET can direct a biopsy to confirm Richter’s transformation.
- Breast lymphoma is FDG avid.
- Pituitary adenomas are FDG avid
References

