Clinical summary

- Patient 60 year-old with chronic lymphocytic leukemia, previously treated with chemotherapy
- No symptoms of fever, no neutropenia
- FDG PET/CT done for restaging and follow up evaluation 3 months post allogenic marrow transplant
PET/CT findings

PET/CT scan shows new FDG avid left upper lobe cavitating lung mass which had developed over the last month.
What is your impression of the findings in the left upper lobe?

A) Recurrent lymphoma
B) Fungal infection
C) Aspiration Pneumonia
D) Atypical mycobacterial infection
E) Bleomycin toxicity
A cell block preparation shows fungal hyphae with a wide width and no septa (suggesting Mucor), but fungal forms thinner in profile and displaying 45 degree branching are seen on the direct smears and GMS stain (suggesting Aspergillus).

Answer: B) Fungal infection
Discussion

• After intolerance to amphotericin B, the patient was treated with posaconazole for five months.
• Repeat FDG PET/CT was performed, with no residual structural or metabolic abnormality.
Teaching points

- Immunosuppressed patients may have minimal symptoms with aggressive infections.
- FDG PET/CT can identify sites of active infections.
- FDG PET/CT can direct biopsy to determine appropriate therapy & assess for therapy response.
Clinical summary

- Male 65 year-old with osteosarcoma of the left leg treated with amputation 40 years ago
- Presents with a biopsy negative right upper lobe lung mass for further characterisation
PET/CT findings

PET/CT shows a metabolically active 2 cm spiculated subpleural pulmonary nodule in the anterior segment of the right upper lobe – wedge resection of the pulmonary nodule revealed aspergillosis infection. No malignant cells were identified.

Mild metabolic activity at the right pulmonary hilum is best explained by reactive adenopathy.
Infections can cause false positive FDG PET/CT scans, although primary malignancy needs to be ruled out in the first instance.
References

• Pulmonary Cryptococcosis

• Invasive mold infections

• Candida lung Abscess

• Invasive aspergillosis