

¹⁸F-FDG PET/CT EXAMINATION

History:-

10-years-old female child, presented with history of cervical lymphadenopathy, referred for PET/CT evaluation.

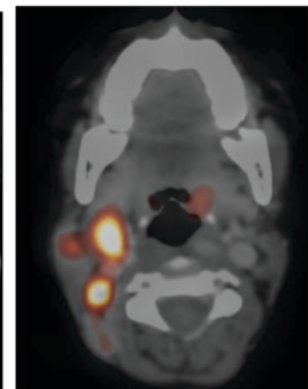
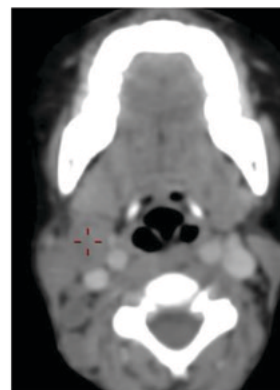
Procedure:-

- 5 mCi ¹⁸F-FDG was administrated to the patient and imaged after appropriate time.
- The blood glucose level was 120 mg/dl.
- A low dose non-contrast CT for attenuation correction and anatomic localization followed by PET images from the skull vault to the mid-thigh were obtained.
- A diagnostic 128 MDCT post contrast examination was taken after I.V. non-ionic contrast administration of the same regions. Images of CT and corresponding functional PET images are taken in axial, coronal and sagittal planes.

PET/CT FINDINGS:-

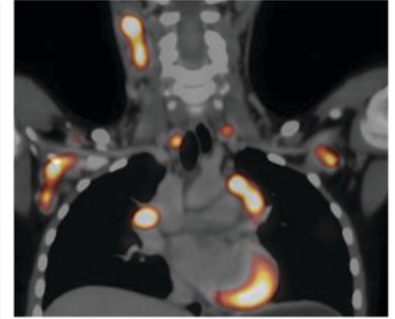
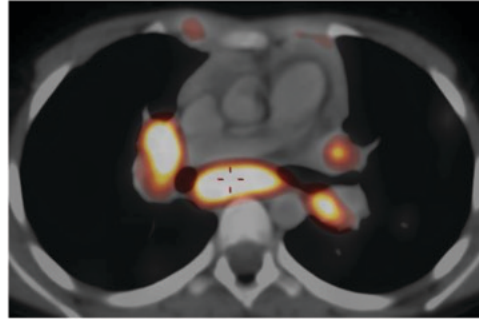
A] Head and Neck:-

- Multiple bilateral deep cervical and intra-parotid lymph nodes of variable sizes and metabolic activity is seen, measuring up to 20x16mm and achieving up to 10.25 SUVmax at the right upper deep cervical level IIa group.
- The visualized portions of the brain exhibited normal FDG biodistribution.
- Physiological FDG uptake is seen in the oropharynx and larynx.
- No parenchymal thyroid focal lesions could be elicited.

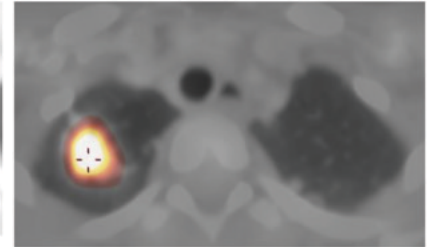
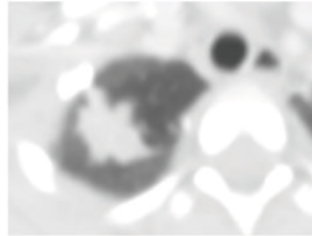


B] Chest:-

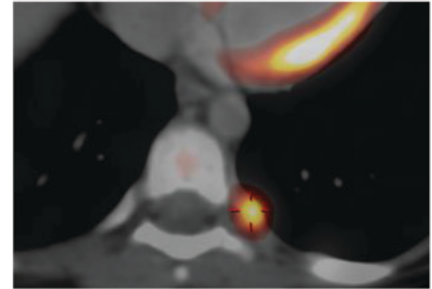
- **Multiple enlarged hypermetabolic mediastinal, bihilar, bilateral internal mammary, bilateral epiphrenic and retro-**



crural lymph nodes are seen, measuring up to 35x19mm at the amalgamated subcarinal nodes and achieving up to 10.5 SUVmax at the right hilar group, with irregular hypodense zones of necrosis within.

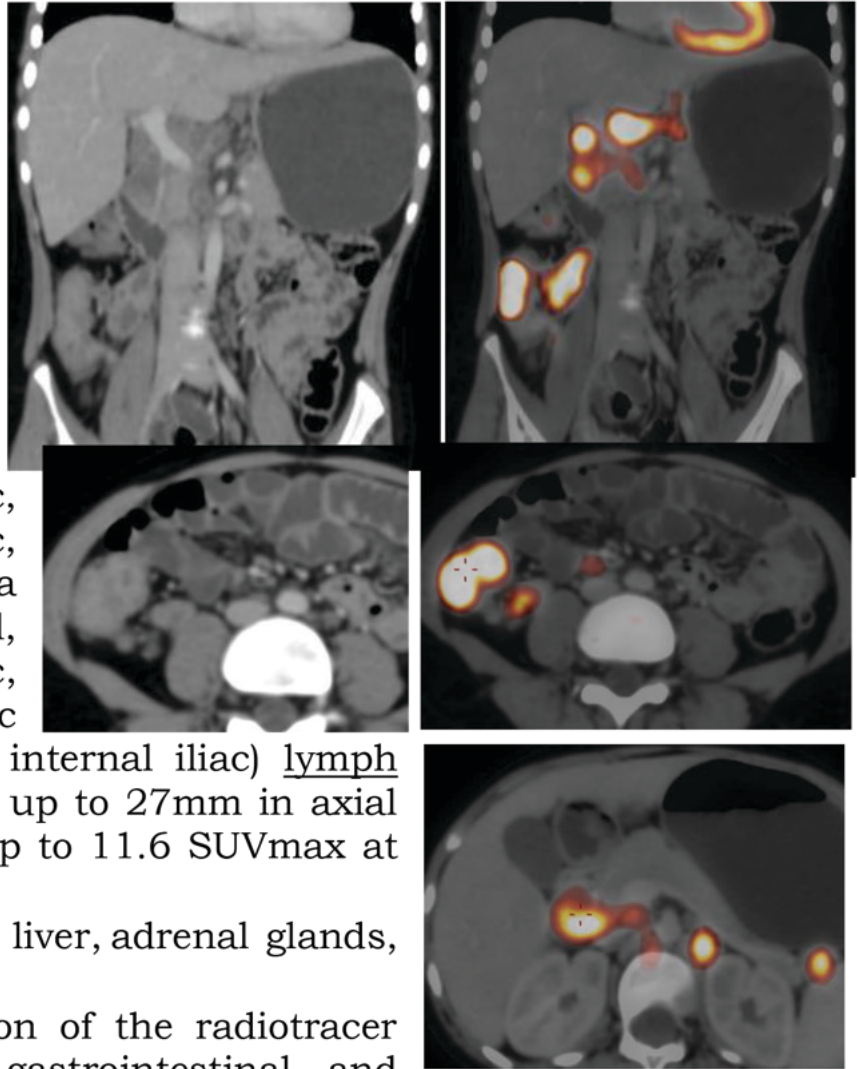


- Multiple other enlarged **hypermetabolic bilateral axillary and subpectoral lymph nodes** are seen, achieving up to 8.84 SUVmax at the right axillary group.
- **Multiple bilateral pulmonary nodules** of variable sizes and activity are seen, the most active is measuring 22x19mm and achieving up to 6.9 SUVmax at the right upper lobe apical segment.
- Few small metabolically active **left posterior costal and paraspinal pleural based/intermuscular soft tissue nodules** are seen, measuring up to 7x13mm and achieving up to 5.4 SUVmax.
- No pleural effusion seen.
- Normal tracer biodistribution uptake is noted in the myocardium.



C] Abdomen & Pelvis: -

- **The terminal ileum and ileocecal region show metabolically active mural thickening, measuring 33x20mm and achieving up to 11.46 SUVmax.**
- Associated **multiple hypermetabolic pelvi-abdominal** (ileocolic, pericolic, mesenteric, celiac, gastro-hepatic, porta hepatis, precaval, aortocaval, left para-aortic, peripancreatic, splenic hilum, right common and internal iliac) lymph nodes are seen, measuring up to 27mm in axial dimension and achieving up to 11.6 SUVmax at the porta-hepatis.
- Physiological uptake in the liver, adrenal glands, spleen and pancreas.
- There is normal distribution of the radiotracer within the rest of the gastrointestinal and genitourinary systems without focal areas of abnormal metabolism.
- Physiological excretion of FDG in the kidneys.
- No ascites noted.



D] Musculoskeletal: -

- No metabolically active osseous lesions could be detected along the surveyed skeleton.

CONCLUSION: -

Positive PET/CT study for multiple metabolically active supra-and infra-diaphragmatic nodal as well as extra-nodal hypermetabolic terminal ilium and pulmonary lesions. The possibilities include active granulomatous infection versus lymphoma, for histopathological correlation.

MUCH OBLIGED

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