

Patient Name : Mrs. Kamini Begum	Patient ID : MIT – 262
Sex / Age : Female/ 70 Years	Study Date : 06.04.2021
Study Name : 18-F FDG Whole Body PET-CT	Ref. By : Dr. Mandeep S. Malhotra

### **<sup>18</sup>F-FDG Whole Body PET/CT Scan**

**Clinical History:** Known case of Ca left breast, post-chemotherapy and radiotherapy (last on 01.01.2019). PET-CT for assessment of response to treatment. Previous PET/CT study dated 17.10.2018 is available for comparison.

**Procedure:** 12.1 mCi of <sup>18</sup>F-fluorodeoxyglucose was administered intravenously. To allow for distribution and uptake of radiotracer, the patient was allowed to rest quietly for 60 minutes in a shielded room. Imaging was performed on an integrated 16-slice PET/CT scanner. CT images for attenuation correction and anatomic localization followed by PET images from vertex to mid-thigh were obtained. SUVmax was normalized to body weight SUVmax bw. Serum Creatinine and blood glucose was 0.9 mg/dL and 98 mg/dL respectively. CT scanning was performed using non-ionic intravenous and oral contrast. No adverse reaction was observed during the scan.

### **Observations:**

#### **Brain: -**

Normal physiological tracer distribution noted in the brain parenchyma. No focal lesion or abnormal uptake noted in the brain. (NOTE: If there is a strong suspicion for brain metastases, then MRI is suggested for further evaluation as small lesions may not be detected on an FDG PET/CT study due to normal high physiological uptake in the brain).

#### **Head and Neck: -**

Nasopharynx, oropharynx, hypopharynx and larynx appear normal with no abnormal FDG uptake is seen in relation to them.

*Mildly FDG avid few subcentimeteric bilateral cervical level II lymphnodes noted – likely inflammatory.*

*Non FDG avid hypodense lesion is noted in left lobe of thyroid – Suggest USG neck correlation. Right lobe of thyroid appears unremarkable.*

Bilateral major salivary glands appear normal with no abnormal FDG uptake.

**FDG avid left supraclavicular (1.5cm x 1.2cm, SUVmax: 11.2, previously 1.7cm x 1.4cm, SUVmax 7.5) lymphnode noted.**

#### **Thorax: -**

**FDG avid heterogeneously enhancing lobulated soft tissue density mass lesion noted in left breast in lower quadrant (5.0cm AP x 4.0cm TR, SUVmax: 10.9, previously 1.6cm x 1.3cm, SUVmax: 2.73). It is inseparable from another soft tissue density lesion (6.7cm x 11.1cm, SUVmax: 11.8) in lower quadrants & retroareolar region of left breast. The mass is involving underlying pectoralis muscles. Overlying skin is free. Adjacent soft tissue stranding noted.**

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**FDG avid and non-avid confluent and discrete left axillary level I-III lymph nodes noted (largest measuring 4.1cm x 2.6cm, SUVmax: 10.2)**

**FDG avid right peribronchial (2.7cm x 2.6cm, SUVmax: 5.6) lymph node noted. FDG avid and non-avid anterior diaphragmatic lymph nodes noted (largest measuring 2.2cm x 1.7cm, SUVmax: 5.8).**

Right breast and axilla appear unremarkable.

The heart and the mediastinal vascular structures are well opacified with I/V contrast. The trachea and main bronchi appear normal.

**FDG avid soft tissue density lesion noted in right lung lower lobe superior segment (3.0cm x 3.4cm, SUVmax: 9.6). Subpleural fibrotic changes noted in left lung upper lobe.** Rest of the bilateral lung parenchyma appears unremarkable.

No pleural effusion or thickening noted.

#### **Abdomen and Pelvis: -**

Liver parenchyma is normal in attenuation values and enhancement pattern. No focal lesion / abnormal increased FDG uptake is seen. Intrahepatic biliary radicals are not dilated. Portal and hepatic veins are normal.

*Left kidney shows irregular cortical outline. Right renal cortical cyst noted.*

Gallbladder, pancreas, spleen and bilateral adrenals appear unremarkable. (USG is the modality of choice to evaluate for cholelithiasis/choledocholithiasis).

*Few subcentimeteric retroperitoneal lymphnodes with no FDG uptake (Unchanged since previous study) – non-specific.*

*Atherosclerotic changes noted in abdominal aorta and its branches.*

There is no ascites.

The small and large bowel loops appear normal in calibre and fold patterns and shows physiological FDG uptake.

No abnormally increased FDG uptake noted in relation to the uterus or right adnexal regions.

*Non FDG avid hypodense cystic area noted in relation to left adnexa (2.9cm x 2.6cm) – likely benign (Unchanged since previous study).*





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**Musculoskeletal:**

Healed fractures noted in left 2<sup>nd</sup> - 4<sup>th</sup> ribs and left ischiopubic ramus.

Degenerative changes noted in the spine.

No other abnormal FDG uptake noted in axial and visualized appendicular skeleton.

**OPINION:**

PET-CT study reveals: -

- Metabolically active left breast lesions, as described with metabolically active left supraclavicular, left axillary, right peribronchial, anterior diaphragmatic lymph nodes and right lung lower lobe nodule -
- No other abnormal hypermetabolic focus noted in rest of the visualized body.


As compared with previous PET-CT study dated 17.10.2018, there is:

- Increase in number, size and metabolic activity of left breast lesions.
- Increase in size and metabolic activity of right peribronchial lymph node.
- Increase in size and appearance of metabolic activity of right lung lower lobe nodule.
- Appearance of anterior diaphragmatic and left axillary lymph nodes.
- Metabolic resolution of sternal lesion.
- Decrease in size of left supraclavicular lymph nodal mass.
- Resolution of left internal mammary lymph node.
- No significant change in rest of the scan findings.

Clinical correlation is advised.

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Kindly bring all previous reports and PET-CT CD for follow up PET-CT scans.