

PREVALENCE AND CLINICAL SIGNIFICANCE OF UNSUSPECTED INTRACRANIAL FINDINGS IN PATIENTS UNDERGOING ONCOLOGICAL WHOLE BODY 18FLUORODEOXYGLUCOSE (FDG) PET CT IMAGING

Diana Nyamieri, Aga Khan University Hospital Nairobi, Department of Imaging and Diagnostic Radiology, Sheila Waa, Aga Khan University Hospital Nairobi, Department of Imaging and Diagnostic Radiology, Samuel Nguku, Aga Khan University Hospital Nairobi, Department of Imaging and Diagnostic Radiology

PREVALENCE AND CLINICAL SIGNIFICANCE OF UNSUSPECTED INTRACRANIAL FINDINGS IN PATIENTS UNDERGOING ONCOLOGICAL WHOLE BODY 18FLUORODEOXYGLUCOSE (FDG) PET CT IMAGING

D. Nyamieri, S. Waa and S. Nguku.

Background: 18F-fluoro-2-deoxyglucose (18F-FDG PET) provides metabolic information of cancer and is integral in the diagnostic workup of many malignancies. Most oncological FDG

PET scans are acquired from the base of the skull to the upper thighs, as lesions that take up FDG are usually within this field of view. Routine inclusion of brain within the field of view of all oncological 18FDG PET/CT studies leads to increase of both time of acquisition and radiation dose (albeit marginal) delivered by the CT component of the study, therefore one can debate if inclusion brain in oncological 18FDG PET-CT has any additional value.

Objective: To identify the prevalence of clinically unsuspected intracranial findings in patients undergoing routine oncological 18 FDG PET CT examinations in Aga Khan University Hospital (AKUHN) with the inclusion of the brain in the field of view.

Methods: Patients who underwent oncological limited whole-body 18 FDG PET/CT scan between February 2019 to December 2021 were retrospectively. The patient's age, sex, type

of malignancy, disease stage, presence of clinically unsuspected intracranial finding, and

clinical information was reviewed. Clinical impact of the identified intracranial findings was also obtained.

Results: 3523 WB FDG PET were included. The prevalence of clinically unsuspected intracranial findings detected was 132 cases (3.7%) and of those the clinically significant intracranial finding was identified in 62 cases (1.4%). The most common intracranial finding

was metastasis. 22 cases underwent a follow up MRI brain, and the sensitivity and specificity were 94.7 % and 66.7% respectively. Change in management was seen in 25/32(78%) cases.

Conclusion and Recommendation: The study shows an added benefit in inclusion of brain in the field of view as it leads to early detection and crucial change in management especially for cancers that have a propensity to metastasis to the brain such as in breast and lung cancer.