# Role of 18F-FDG PET/CT in Staging and Follow up of Lymphoma in Pediatric and Young Adult Patients.

#### **Thesis**

## Submitted in partial fulfillment of M.D. in Nuclear Medicine

By

#### Rehab Ahmad Abd El Meguid, M.Sc.

Assistant Lecturer of Nuclear Medicine Cairo University

#### **Supervisors**

#### Hosna Mohamed Moustafa, M.D.

Professor of Nuclear Medicine Faculty of Medicine Cairo University

#### Walid Soliman Omar, M.D.

Professor of Nuclear Medicine National Cancer Institute Cairo University

#### Yasser Mohamed Ahmed, M.D.

Lecturer of Nuclear Medicine Faculty of Medicine Cairo University

> Faculty of Medicine Cairo University 2012

#### Abstract

The study was conducted at the Children's Cancer Hospital in Cairo. A total of sixty two patients who performed one hundred and fifty five PET/CT studies (17 girls and 45 boys) with histologically proven malignant lymphoma (56 HD, 6 NHL) were included in this study. They were divided into four groups according to the indication of PET/CT study. Group I: 62 studies for initial staging. Group II: 35 studies for evaluating early treatment response after two to three cycles of chemotherapy. Group III: 27 studies for evaluating treatment response 4–8 weeks after the end of their treatment. Group IV: 30 studies evaluated for follow-up and detection of relapse. Results of PET/CT were compared with diagnostic CT.

#### **Key word:**

*Nuclear*- Lymphoma-18F-FDG-PET/CT

## بسم الله الرحمن الرحيم

إِقْرَأُ بِالسَّمِ رَبُّكَ النَّذِي خَلَق \* خَلَقَ الإِنْسَانَ مِنْ عَلَق \* إِقْرَأٌ

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#### **List of Abbreviations**

HD: Hodgkin's disease.

HL: Hodgkin's lymphoma.

NHL: Non-Hodgkin's lymphoma.

GPCR: Gharbia population based cancer registry.

EBV: Epstein-Barr virus.

OR: Odds ratio.

HIV: Human immunodeficiency virus.

PTLD: Posttransplant lymphoproliferative disease.

RS: Reed-Sternberg cell.

NSHL: Nodular sclerosis Hodgkin lymphoma.

MCHL: Mixed cellularity Hodgkin lymphoma.

ALCL: Anaplastic large cell lymphoma.

LRCHL: Lymphocyte rich classic Hodgkin lymphoma.

LDHL: Lymphocyte-depleted Hodgkin lymphoma.

LPHL: Lymphocyte predominance Hodgkin lymphoma.

WHO: World Health Organization.

REAL: Revised European-American Lymphoma.

DLBCL: Diffuse large B-cell lymphoma.

ALL: Acute lymphocytic leukemia.

AML: Acute myeloid leukemia.

ESR: Erythrocyte sedimentation rate.