MANAGEMENT OF GESTATIONAL CHORIOCARCINOMA

Essay Submitted for the Partial Fulfillment of the Master Degree in Radiotherapy and Nuclear Medicine

By

Ali Abd El-Aleem Ali
M.B., B.Ch.

Supervised by:

ASS. Prof. Dr. Soheir Helmy Mahmoud
Ass. Prof. of Radiation Oncology and Nuclear Medicine
Faculty of Medicine - Ain Shams University

Prof. Dr. Atef Youssef Riad
Professor of Radiation Oncology and Nuclear Medicine
Faculty of Medicine - Ain Shams University

Dr. Mohamed Essam Saleh
Lecturer of Radiation Oncology and Nuclear Medicine
Faculty of Medicine - Ain Shams University

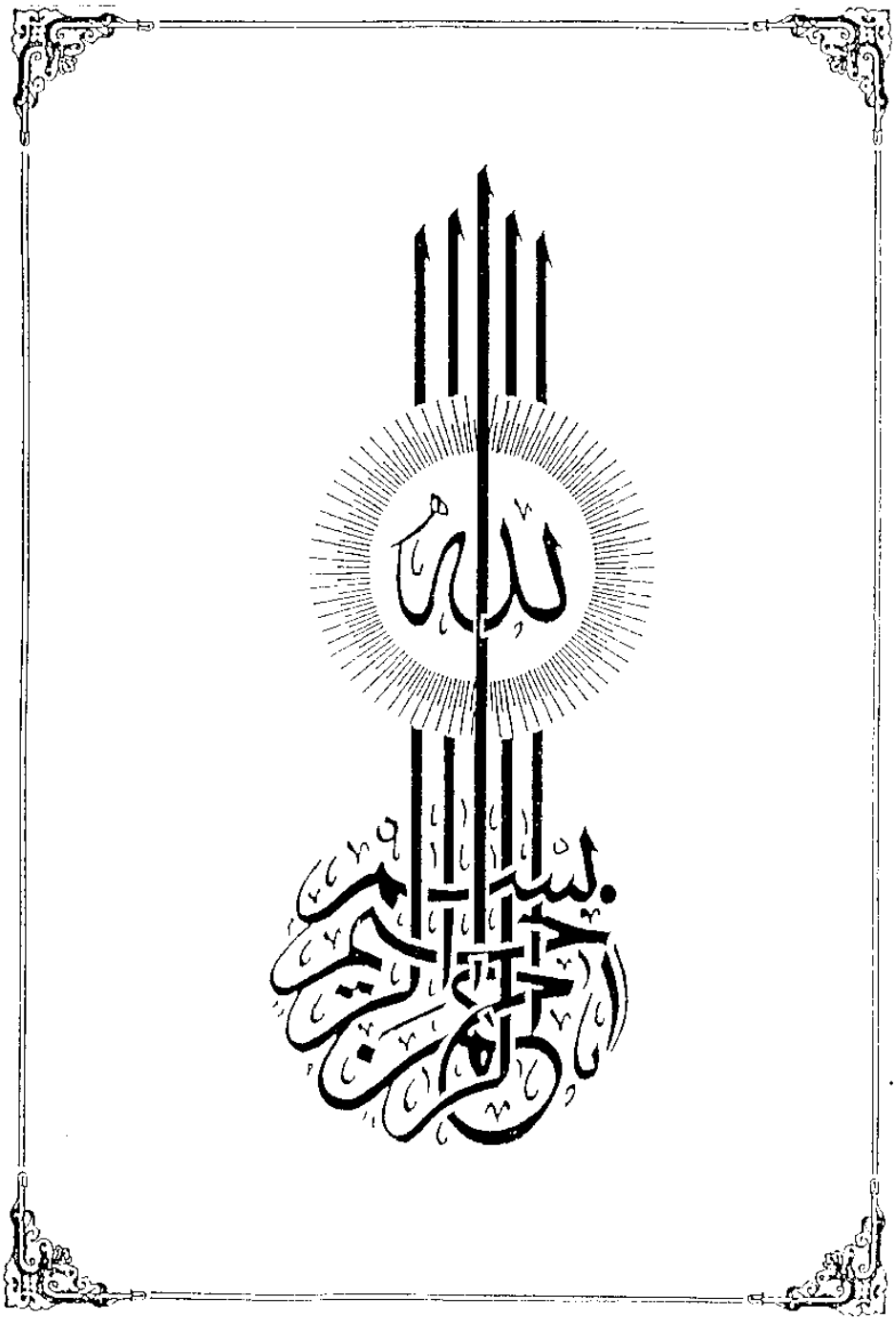
FACULTY OF MEDICINE
AIN SHAMS UNIVERSITY
1997

بسم الله الرحمن الرحيم

قالوا سبحانك لا علم لنا إلا ما علمتنا،
إنك أنت العليم الحكيم

صدق الله العظيم

سورة البقرة، الآية ٣٢



Acknowledgment

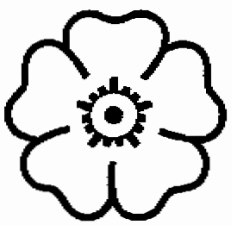
I am greatly indebted to Prof. Dr. Laila Faris, Head of Radiation Oncology and Nuclear Medicine, Ain Shams University, where this work was completed, for her encouragement, support and mother care.

My deepest thanks, gratitude, great respect and sincere appreciation goes to Prof. Dr. Soheir Helmy Mahmoud, Ass. Prof. of Radiation Oncology and Nuclear Medicine, Ain Shams University, for her constructive guidance and utmost help which were the paramount axes in initiation and completion of this work.

I wish to express my deepest gratitude to Prof. Dr. Atef Youssef Riad, Prof. of Radiation Oncology and Nuclear Medicine, Ain Shams University, for his fruitful suggestions and kind help.

I am deeply indebted to Dr. Mohamed Essam Saleh, Lecturer of Radiation Oncology and Nuclear Medicine, Ain Shams University, for his tremendous assistance, continuous guidance and enthusiastic support.

My gratitude and thanks are extended to all the staff members of the department of Radiation Oncology and Nuclear Medicine, Ain Shams University, for their help and cooperation.



To my family

Ali Abd El-Aleem

List of Contents

List of abbreviations

- ACT-D: Actinomycin-D=Dactinomycin
- ADEPT: Antibody directed enzyme prodrug therapy
- CHAMOCA: Cyclophosphamide, hydroxyurea, dactinomycin, methotrexate, vincristine, calcium folinate (folinic acid)
- CHAMOMA: Cyclophosphamide, hydroxyurea, dactinomycin, methotrexate, vincristine, melphalan, adriamycin
- CNS: Central nervous system
- CT: Computerized tomography scan
- CTX: Cyclophosphamide
- Cy: Cyclophosphamide
- EHMMAC: Etoposide, hydroxyurea, methotrexate, mercaptopurine, dactinomycin, cyclophosphamide.
- ELISA: Enzyme-linked immunosorbent assay
- EMA/CO: Etoposide, methotrexate, dactinomycin (EMA), vincristine (oncovine), cyclophosphamide (CO)
- EP: Etoposide, cisplatin
- FIA: Fluoroimmunoassay
- FIGO: The International Federation of Gynecology and Obstetrics
- 5-FU: 5-Fluorouracil
- FSH: Follicle stimulating hormone
- GTD: Gestational trophoblastic disease
- GTN: Gestational trophoblastic neoplasms
- GTT: Gestational Trophoblastic Tumors
- hCG: Human chorionic gonadotropin
- HM: Hydatidiform mole
- IRMA: Immunoradiometric assay
- LH: Lutenizing hormone
- MAC: Methotrexate, Dactinomycin, Chlorambucil or Cyclophosphamide
- MRI: Magnetic resonance imaging
- MTX/FA: Methotrexate/Folinic acid

- MTX: Methotrexate
- NETDC: New England Trophoblastic Disease Center
- NIH: National Institute of Health
- PEA: Cis-platin, etoposide, actinomycin-D
- PEBA: Cisplatin, etoposide, bleomycin, adriamycin
- POMB: Cisplatin, vincristine (oncovine), methotrexate, bleomycin
- PSTT: Placental site trophoblastic tumor
- RIA: Radioimmunoassay
- TSH: Thyroid stimulating hormone
- US: Ultrasound
- VC: Vincristine
- VIP: Etoposide (vepside), ifosfamide, cisplatin
- VP-16: Etoposide
- WBI: Whole brain irradiation
- WHO: World Health Organization

List of Figures

List of Tables

Introduction and Aim of the work

INTRODUCTION

Choriocarcinoma is a very highly malignant tumor of gestational trophoblastic disease (GTD). GTD includes hydatidiform mole (HM), invasive mole, gestational choriocarcinoma and placental site trophoblastic tumor (PSTT) ***(Begent, 1990).***

Gestational choriocarcinoma is a carcinoma arising from the trophoblastic epithelium that shows both cytotrophoblastic and syncytiotrophoblastic elements ***(Bagshawe, 1993).***

It is a rare malignant neoplasm. The antecedent pregnancy is a hydatidiform mole in about 57%, a normal pregnancy in about 26% and an abortion or ectopic pregnancy in about 17% ***(Bagshawe, 1992).***

In addition to being the first and only disseminated tumor that have proved to be highly curable by chemotherapy, they elaborate a unique and characteristic tumor marker, human chorionic gonadotropin (hCG) ***(John, 1990).***

All trophoblastic tumors are dealt with as a group that is divided according to various prognostic factors. They respond to the same cytotoxic drugs. These prognostic factors appear to predict this satisfactorily when applied to the assembled group. PSTT is an exception, showing a substantial degree of drug resistance in all cases ***(Begent, 1995).***

AIM OF THE WORK:

The aim of this work is to review the literature for the recent advancement in management of gestational choriocarcinoma, highlighting aspects concerning prognosis.

Incidence and Epidemiology