Malignant Soft tissue tumors

A Retrospective Statistical Study

Submitted in partial fulfillment of
M. Sc. Degree in Histopathology

By

Hanan Ali Abd Elmawgoud Ali

M.B.B.Ch

Supervised by

Prof. Dr. Samira Abdallah Mahmoud
Professor of pathology
Faculty of Medicine
Cairo University

Prof. Dr. Amina Ahmed Salah Eldin
Professor of pathology
Faculty of Medicine
Cairo University

Dr. Samar Abdel-Monem El-sheikh
Associate professor of pathology
Faculty of Medicine
Cairo University

2014

THE CONTENTS

Page

List of Tables

ACKNOWLEDGMENTS

First and foremost thanks to God, the most beneficent and merciful.

I would like to express my deepest gratitude and appreciation to Professor ***Dr. Samira Abd Allah Mahmoud,*** *Professor of pathology , faculty of medicine, Cairo university for her guidance to me as a post-graduate student that maintained my focus and for providing the freedom to develop and express my own scientific ideas which was of great importance to me to raise my individual abilities.*

I am very much indebted to Professor ***Dr. Aminah Ahmed Salah ELdeen,*** *Professor of pathology, faculty of medicine, Cairo university for her kind supervision, great help& guidance. Her expertise and helpful insights on this project helped to complete my work during all this period.*

Special gratitude is due to ***Dr. Samar Abd Elmonem El shiekh*** *, Assistant Professor of pathology, faculty of medicine, Cairo University for her encouragement and teaching assistance. I take this opportunity to extend my most sincere gratefulness for her patience.*

Thanks are due to all the people in our department of pathology, faculty of medicine, Cairo University for their support.

Finally, I would like to express my immeasurable appreciation to two unconditionally devoted people for their love, trust, inspiration and understanding, my parents. This thesis is dedicated to them.

The Candidate

ABSTRACT

This study aims at registering the incidence of malignant soft tissue sarcoma cases were received by the pathology department in El Kaser El Aini Hospital, during the period from January1, 2006 till December31, 2010. During this period 50 cases were collected with incidence in the pathology department in El Kaser El Aini Hospital found to be (1.7\1000). Age ranged from one year to 72 years.11 cases (22%) Rhabdomyosarcoma, 10 cases (20%) Synovial sarcoma, 6 cases (12%) liposarcoma, 7 cases (14%) pleomorphicsarcoma, 5 cases (10%) PNET, 4 cases (8%) Angiosarcoma, 4 cases (6%) Fibrosarcoma, 1 case (2%) Leiomyosarcoma, 1 case (2%) Kaposi's sarcoma and 1 case (2%) Mesenchymal chondrosarcoma. Statistically significant results were obtained.

Key words: Malignant soft tissue tumors.

List of Figures

List of abbreviation

AJCC	The American Joint Committee on Cancer.
ALT/WD L	Atypical lipomatous tumor /Well differentiated liposarcoma.
CCMMT	Clear cell myomelanocytic tumor.
CCST	Clear cell “sugar” tumor.
CT	Computed Tomography.
EBV	Epstein-Barr virus.
EMCs	Extraskeletal myxoid chondrosarcoma.
EO	Extra skeletal osteosarcoma.
FNAB	Fine Needle Aspiration Biopsy.
FNCLCC	French Fédération Nationale des Centres de Lutte Contre le Cancer.
G y	Gray Unit.
GCTST	Giant cell tumor of soft tissue.
HHV8	Human Herpes Virus 8.
HIV	Human Immunodeficiency Virus.
HPF	High Power Field.
IFS	Infantile fibrosarcoma.

IMRT	Intensity-modulated radiation therapy.
KS	Kaposi sarcoma.
M LS	Mixed Liposarcoma.
MFH	Malignant Fibrous Histiocytoma.
MRI	Magnetic Resonance Imaging.
NCI	National Cancer Institute.
NF1	Neurofibromatosis 1.
PECs	Perivascular epithelioid cells.
PET	Positron Emission Tomography.
PNET	Prepheral Neuro Ectodermal Tumor.
RC	Round Cell.
RIS	Radiation Induced Sarcomas.
RMS	Rhabdomyosarcomas.
SEF	Sclerosing epithelioid fibrosarcoma.
SFT	Solitary Fibrous Tumor.
STS	Soft-tissue sarcomas.

Introduction:

Soft tissue tumors are large heterogeneous group of neoplasms ,and they are classified according to histogenesis ,Most have benign and malignant counterparts; some are of border line malignant potential with aggressive local invasion (**Shidham ,** ***2006).***

Soft tissue sarcomas are cancerous (malignant) tumors that originate in the soft tissues of the body, that connect, support and surround other body structures. Including : muscle, fat, blood vessels, nerves, tendons and the synovial tissues ***(DeLaney T, 2011).***

Most of soft tissue sarcomas arise de novo, but a small percentage originate in injured tissues such as scars or radiation-exposed areas ***(Rosenthal etal;1987).***In the rare inherited genetic syndroms , germ-line p53 mutations occure resulting in breast cancer, sarcomas and other neoplasms ***(Malkin et al.,1990).***

Soft tissue sarcomas are relatively uncommon cancers. They account for less than 1% of all new cancer cases each year. This may be because cells in soft tissue are not continuously dividing cells. The most common symptom of a sarcoma is a lump or swelling that may or may not be painful.Symptoms vary, depending on the part of the body that is affected ***(Ries et al., 2006).***

Regarding sex of patients, there is a slight male predominance. Like almost all other malignancies, soft tissue sarcomas become more common with increasing age; the median age is 65 years ***(Christopher, 2002).***

Soft tissue sarcomas can occur anywhere in the body, but most originate in an extremity (59%), the trunk (19%), the retroperitoneum (15%), or the head

and neck (9%). More than 50 histologic types of soft tissue sarcoma have been identified, but the most common are malignant fibrous histiocytoma (28%), leiomyosarcoma (12%), liposarcoma (15%) and synovial sarcoma (10%). Rhabdomyosarcoma is the most common soft tissue sarcoma of childhood ***(Tiwari et al., 2004).***

Grading of soft tissue sarcoma is based on histological parameters only, evaluating the degree of malignancy and mainly the probability of distant metastasis, while staging is based on both clinical and histological parameters, providing information on the extent of the tumor ***(Fletcher, 2002).***

Aim of the work

- Revision of all available archival slides of malignant soft tissue tumors in the last five years (2006-2010), collected from the Pathology department, Faculty of Medicine, Cairo University, Kasr El- Einy hospital.
- Statistical evaluation & correlation between clinical and patient data available in request sheet and pathological findings.

THE CONTENTS

Page

Epidemiology of soft tissue sarcomas:

A-Incidence

Malignant mesenchymal neoplasms amount to less than 1% of the overall malignant tumors. Soft tissue sarcomas may occur anywhere but three fourths are located in the extremities (most common in thigh) and10 percent each in the trunk wall and retroperitoneum. Of the extremity and trunk wall tumors one third are superficial with a median diameter of 5 cm and two-thirds are deep seated with a median diameter of 9 cm**.** There is a slight male predominance. Like almost all other malignancies, soft tissue sarcomas become more common with increasing age; the median age is 65 years ***(Fletcher et al., 2002)***. Retroperitoneal tumors are often much larger before they become symptomatic. One tenth of the patients have detectable metastases (most common in the lungs) at diagnosis of the primary tumor. Overall, at least one-third of the patients with soft tissue sarcoma die because of tumor, most of them because of lung metastases. The age-related incidences vary; embryonal rhabdomyosarcoma occurs almost exclusively in children, synovial sarcoma mostly in young adults, whereas pleomorphic high grade sarcoma, liposarcoma and leiomyosarcoma dominate in the elderly ***(Christopher et al., 2002).***

In Egypt soft tissue sarcomas constituted 2.74% of total malignancy. This group of tumors showed a high percentage of pediatrics, 28.00%.and showed a male predominance of 60.07%. The site distribution of soft tissue sarcomas showed a higher predilection for the lower extremities and