# Evaluation of the management of uterine sarcoma

**Thesis**

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Surgical oncology

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# Dedication

*To my* Mother and Father

*for encouragement, support , understanding and love.*

*To My* Sister *and my* Brothers

*for supporting, understanding and giving me the help to finish this work*

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# LIST OF CONTENTS


| Title | Page NO. |
|---|---|
| **ABSTRACT** | |
| **INTRODUCTION** | 1 |
| **REVIEW OF LITERATURE** | 4 |
| Pathology | 4 |
| Prognostic factors | 18 |
| Pathogenesis | 22 |
| Epidemiology and tumour features | 24 |
| Clinical presentation | 27 |
| Symptoms and signs | 27 |
| Examination & endometrial sampling | 29 |
| Laboratory testing | 30 |
| Imaging | 30 |
| Management ( general consideration) | 37 |
| Surgical management | 39 |
| Surgical anatomy | 41 |
| Surgical details | 45 |
| Surgical consideration of each type of uterine sarcoma | 55 |
| Fertility sparing management | 58 |
| Surgical management of relapse | 58 |
| Radiotherapy management | 59 |
| Chemotherapy management | 64 |
| Endocrine therapy | 69 |
| Surveillance | 69 |
| **AIM OF THE WORK** | 70 |
| **PATIENTS AND METHODS** | 71 |
| **RESULTS** | 73 |
| **DISCUSSION** | 98 |
| **CONCLUSION** | 104 |
| **SUMMARY** | 106 |
| **REFERENCES** | 110 |
| **ARABIC SUMMARY** | - |


# LIST OF FIGURES

| *Figure No.* | *Title* | *Page No.* |
|---|---|---|
| **1** | Gross and microscopic pictures of leiomyosarcoma | **6** |
| **2** | Microscopic picture of myxoid leiomyosarcoma | **8** |
| **3** | Microscopic picture of carcinosarcoma | **11** |
| **4** | Microscopic picture of endometrial stromal sarcoma | **11** |
| **5** | Microscopic picture of adenosarcoma | **15** |
| **6** | T1-weighted magnetic resonance (MR) image shows uterine leiomyosarcoma | **32** |
| **7** | T2-weighted magnetic resonance (MR) image shows malignant mixed müllerian tumour | **33** |
| **8** | CT scan with contrast shows malignant mixed müllerian tumour | **34** |
| **9** | CT scan with contrast shows low grade ESS | **35** |
| **10** | T2-weighted magnetic resonance (MR) image shows high grade ESS | **36** |
| **11** | Surgical anatomy of pelvic and paraaortic lymph node | **42** |
| **12** | Jackknife position used for radical gynecologic surgery | **45** |
| **13** | Types of abdominal incision in gynecologic surgery | **47** |
| **14** | Dissection of ureter from the parametrium | **48** |
| **15** | Clamping and sectioning of proximal vagina | **49** |
| **16** | Dissection of pelvic lymph node at bifurcation of common iliac vessels | **50** |
| **17** | Dissection of lymphatic tissue at psoas muscle | **51** |
| **18** | Identification of Rt ureter and common iliac artery | **52** |
| **19** | Removing specimen of Rt paraaortic lymph node dissection | **53** |
| **20** | Removal of left paraaortic lymph nodes | **54** |
| **21** | Whole pelvic irradiation fields in female pelvis | **61** |
| **22** | Presenting symptoms in patients of studied group | **74** |
| **23** | FIGO stages in patients of studied group | **76** |
| **24** | Pathological types in patients of studied group | **77** |
| **25** | Pathological grades in patients of studied group | **77** |
| **26** | Surgical margin in patients of studied group | **78** |
| **27** | Treatment modalities in patients of studied group | **79** |
| **28** | Type of surgery in patients of studied group | **80** |
| **29** | Overall survival in patients of studied group | **83** |
| **30** | Overall survival comparing both age groups | **83** |
| **31** | Overall survival comparing different FIGO stages | **84** |
| **Figure No.** | ***Title*** | **Page No.** |
| **32** | Overall survival comparing different surgical management | **85** |
| **33** | Overall survival comparing different pathological types | **86** |
| **34** | Overall survival comparing positive and negative surgical margins | **86** |
| **35** | Overall survival comparing different pathological grades | **87** |

| | | |
|---|---|---|
| **36** | Overall survival with and without chemotherapy | **88** |
| **37** | Overall survival with and without radiotherapy | **88** |
| **38** | Disease free survival comparing different FIGO stages | **90** |
| **39** | Disease free survival with and without radiotherapy management | **92** |
| **40** | Panhystrectomy specimen in 55 -years old female patient with malignant mixed müllerian tumour | **93** |
| **41** | Opend hysterectomy specimen in a case of malignant mixed müllerian tumour | **93** |
| **42** | Omentectomy specimen in a case of malignant mixed müllerian tumour | **94** |
| **43** | Uterine mass mimicking sarcoma with postoperative pathology of degenerated fibroid | **94** |
| **44** | Huge uterine leiomyoma | **94** |
| **45** | T2-weighted mri (axial) shows uterine malignant mixed müllerian tumour | **95** |
| **46** | T2-weighted MRI (sagittal) shows uterine malignant mixed müllerian tumour | **95** |
| **47** | MRI (axial) with pelvic recurrence in a case of uterine malignant mixed müllerian tumour | **95** |
| **48** | CT scan of the chest in a 60-years old female patient shows metastatic uterine leiomyosarcoma to lung | **96** |
| **49** | CT scan of the chest in a 65-years old female patient shows metastatic ESS to lung | **96** |
| **50** | Microscopic picture of endometrial stromal sarcoma | **97** |
| **51** | Microscopic picture of leiomyosarcoma | **97** |
| **52** | Microscopic picture of malignant mixed müllerian tumour | **97** |


# LIST OF TABLES

| ***Table. No.*** | ***Title*** | ***Page No.*** |
|---|---|---|

| | | |
|---|---|---|
| **1** | Classification of mesenchymal tumours of the uterus | **5** |
| **2** | Differences between leiomyoma and leiomyosarcoma | **6** |
| **3** | Features comparing stromal nodule and endometrial stromal sarcoma | **14** |
| **4** | Presenting features of uterine sarcoma | **28** |
| **5** | Characteristics of patients of studied group | **73** |
| **6** | Presenting symptoms in patints of studied group | **74** |
| **7** | Initial imaging evaluation in the studied group | **75** |
| **8** | FIGOstage in patient of studied group | **75** |
| **9** | Pathological types of studied group | **76** |
| **10** | Treatment modalities of the studied group | **78** |
| **11** | Modalities of surgical management of the studied group | **79** |
| **12** | Postoperative complications | **80** |
| **13** | Radiotherapy management of the studied group | **81** |
| **14** | Results of survival in studied group | **82** |
| **15** | Overall survival comparing different FIGO stages | **84** |
| **16** | Overall survival with and without chemotherapy | **87** |
| **17** | Overall survival with and without radiotherapy | **89** |
| **18** | Results of multivariant analysis in overall survival | **89** |
| **19** | Disease free survival comparing different FIGO stages | **90** |
| **20** | Disease free survival comparing different pathological types | **91** |
| **21** | Disease free survival with and without radiotherapy treatment | **91** |
| **22** | Results of multivariant analysis in disease free survival | **92** |


# LIST OF ABBREVIATIONS

**CA** 125 Cancer Antigens 125

**CD 10** Cluster Designation 10

**CD 44 ver 3** Cluster Designation 44 version 3

**CS** Carcinosarcoma

**CT** Computed Tomography

**DFS** Disease Free Survival

**DNA** Deoxyribonucleic acid

**D&C** Dilatation and Curettage

**EBRT** External Beam Radiotherapy

**ER** Estrogen Receptor

**ESS** Endometrial Stromal Sarcoma

**FBC** Full Blood Count

**FIGO** Federation of International Gynecologic Oncology

**GOG** Gynecologic Oncology Group

**HDR** High Dose Radiotherapy

**HGSS** High Grade Stromal Sarcoma

**HPF** High Power Field

**IMA** Inferior Mesenteric Artery

**IVC** Inferior Vena Cava

**LDR** Low Dose Radiotherapy

**LGSS** Low Grade Stromal Sarcoma

**LMS** Leiomyosarcoma

**LND** Lymph Node Dissection

**MMMT** Malignant Mixed Müllerian Tumour

**MRI** Magnetic Resonance Imaging

**NCI** National Cancer Institute

**OS** Overall Survival

**PLND** Paraaortic Lymph Node Dissection

**PR** Progesterone Receptor

**PTEN** Piedmont Triad Entrepreneurial Network

**RR** Response Rate

**SD** Standard Deviation

**TAH & BSO** Total Abdominal Hysterectomy and Bilateral Salpingioophorectomy

**VAC** Vincristine, Actinomycin D,Cyclophosphamid

**WHO** World Health Organization

# Abstract

Uterine sarcomas include a heterogeneous group of rare tumours that usually have an aggressive clinical behavior and poor prognosis. Clinical staging, histologic cell types, grades, mitotic index and DNA ploidy are important prognostic factors predicting the overall and disease free survival. This retrospective study highlights the experience of management and surgical approaches offered to uterine sarcoma in National Cancer Institute, Cairo University during the period January 2000- December 2007. The study included fifty seven patients with pathologically proven uterine sarcoma and subjected to different types of management at our institute. In our study FIGO staging is the most significant prognostic factor affecting both overall and disease free survival. In our study, external beam radiotherapy with or without brachytherapy seemed to improved local disease control with better results in early stage. Despite using adjuvant treatment survival rates were very poor with 2- year survival 37.6% and 4-year survival 22.2%.


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**Key words:** uterine sarcoma, surgical approaches, FIGO staging, external beam radiotherapy, brachytherapy, overall survival, disease free survival.

# INTRODUCTION

# Introduction

Uterine sarcoma represents a small percentage of all uterine malignancies and about 1% of all female genital tract neoplasms ***(Tavassoli and Devilee, 2003).***
It represents (4–9%) of all invasive uterine cancers, and has an annual incidence rate of less than 2 per 100,000 females ***(Brooks et al., 2004).***
Survival rates for uterine sarcoma patients have been uniformly poor with most series have reported a 5-year survival of 30-48% ***(Livi et al., 2004)***

In general, two distinct tissue components give rise to malignant mesenchymal tumors; myometrial smooth muscle is the tissue origin for leiomyosarcoma (LMS) and endometrial stroma for stromal sarcoma (ESS), whilst both muscle and stromal tissue types give rise to malignant mixed müllerian (MMMT) sarcoma. In addition, uterine sarcoma is sub classified into homologous (consisting of cells native to the uterus) or heterogonous (cells usually not found in the uterus).The mixed Müllerian tumour consists of malignant elements of both epithelial and stromal elements, hence it is also known as carcinosarcoma. ***(Papadopoulos and Kenney, 2001).***

There are important differences in the ways these tumours grow and metastasize. Carcinosarcoma tends to have a higher incidence of lymphatic spread and lymph node metastases, whereas leiomyosarcoma is more likely to have early hematogenous spread usually in the lungs or the liver ***(Gadducci et al., 2002).***
However, the metastatic potential is very wide and distant lesions can be found anywhere ***(Falconi et al., 2006).***

Clinical staging, histologic cell types, grades, mitotic index and DNA ploidy are important prognostic factors predicting the overall and disease free survival ***(Giuntoli et al., 2003).***

The most significant prognostic factor is the stage at diagnosis .The FIGO staging for uterine sarcoma is identical to that for the corpus uteri, with two-thirds being stage I and one-fifth stage IV at diagnosis. (***Bodner et al., 2003)***

In leiomyosarcoma, the size of the tumour affects prognosis, where lesions greater than 5 cm have a poorer outcome. One study demonstrated that leiomyosarcoma has a poorer prognosis than mixed müllerian tumours when adjusted for other known prognostic factors***. (Olah et al., 1992)***

In early stage disease of mixed müllerian tumours some investigators have demonstrated that the following features influence the prognosis; tumour size, cervical spread, depth of myometrial invasion and lymph nodal disease. ***(Major et al., 1993)***

Proper Surgery should involve a minimum of total abdominal hysterectomy, bilateral salpingo-oophorectomy, careful and thorough inspection of the abdominal and pelvic organs, sampling of fluid for cytological assessment of the washings and perhaps -little more contentiously- pelvic and/or para-aortic lymph node dissection (PLND) ***(Amant , 2005).***

The poor disease control is in itself an indication for adjuvant therapy. In most cases, radiotherapy improves local control but not survival***. (Livi et al., 2004)***

On the basis of the results of a recent clinical trial, there is no difference in terms of overall survival or disease free survival for sarcomas, but radiotherapy seems to provide a superior local disease control for mixed müllerian tumours and no benefit with respect to LMS ***(Reed et al., 2003).***

In recurrent uterine sarcomas the response rates in different chemotherapeutic regimens have been between 0–57 percent ***(Kanjeekal et al., 2005).***

# REVIEW OF LITERATURE