Best Practice & Research Clinical Obstetrics and Gynaecology 25 (2011) 751–760

Contents lists available at ScienceDirect

Best Practice & Research Clinical Obstetrics and Gynaecology

journal homepage: www.elsevier.com/locate/bpobgyn

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Surgical treatment of uterine sarcoma

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Keywords:
uterine sarcoma
carcinosarcoma
leiomyosarcoma
endometrial stromal sarcoma
surgical treatment

Uterine sarcomas are rare, heterogeneous malignant tumours of several histologic types originating from mesenchymal tissues of the uterus. The most common histologic types are carcinosarcoma, leiomyosarcoma, and endometrial stromal sarcoma, accounting for 90% of uterine sarcomas. To date, no effective treatment has been found to achieve a high rate of cure or prolong survival. Although complete surgical excision of the tumour is the only curative treatment modality, the rarity of these tumours and their diversity of histologic types have precluded the development of standard surgical strategies. Surgery may also be optimal for recurrent uterine sarcomas, but indications for secondary surgical treatment have not been established. Here, we describe recent changes in, and updates of, the surgical treatment of the three most common types of malignant uterine sarcomas.

Introduction

Uterine sarcomas are highly malignant tumours of the uterus that originate from mesenchymal tissues, including uterine smooth muscle, endometrial stroma, and supporting tissue. These tumours are relatively rare, accounting for about 3% of all uterine malignancies. They are heterogeneous, consisting of several histologic types. The three most common histologic types, accounting for 90% of all uterine sarcomas, are carcinosarcoma, leiomyosarcoma (LMS), and endometrial stromal sarcoma (ESS), listed in decreasing order of incidence.[1–3]

Because of the rarity and diversity of histologic types, a treatment strategy unique to each has not been established. In addition, these tumours were surgically staged by the International Federation of Obstetrics and Gynecology (FIGO) staging system for endometrial adenocarcinoma, because no FIGO

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doi:10.1016/j.bpobgyn.2011.05.009

staging system unique to each type of uterine sarcoma had been established.[4] The recent development of a new FIGO staging system unique to each type of uterine sarcoma[5] has allowed each type to be treated separately (Table 1).[6]

Surgery, including hysterectomy and resection of disease, is the mainstay of treatment for uterine sarcomas, regardless of histologic type.[6,7] Complete surgical excision is the only curative treatment modality currently known.[7–9] It has been difficult, however, to establish a surgical strategy for each type of uterine sarcoma because of a lack of randomised-controlled trials to determine the extent and efficacy of surgical treatment. To date, no effective adjuvant therapy has been found to prolong the survival of women with uterine sarcomas.[6,10–15] Moreover, the efficacy of primary chemotherapy, radiation therapy, combinations of both, and hormone therapy has not been determined.[6,10–17] In this review, we describe recent changes in, and updates of, surgical treatments of the three most common histologic types of malignant uterine sarcomas.

Surgical treatment of uterine carcinosarcoma

Uterine carcinosarcoma is frequently diagnosed by endometrial biopsy because women usually present with vaginal bleeding and an endometrial mass, with about 40% having tumours in the cervical

Table 1
2009 FIGO staging of uterine sarcomas.

(1) Leiomyosarcomas and endometrial stromal sarcomas*	
Stage	Definition
I	Tumor limited to uterus
IA	≤5 cm
IB	>5 cm
II	Tumor extends to the pelvis
IIA	Adnexal involvement
IIB	Tumor extends to extrauterine pelvic tissue
III	Tumor invades abdominal tissues (not just protruding into the abdomen).
IIIA	One site
IIIB	>One site
IIIC	Metastasis to pelvic and/or para-aortic lymph nodes
IV	Tumor invades bladder and/or rectum
IVA	
IVB	Distant metastasis
(2) Adenosarcomas	
Stage	Definition
I	Tumor limited to uterus
IA	Tumor limited to endometrium/endocervix with no myometrial invasion
IB	Less than or equal to half myometrial invasion
IC	More than half myometrial invasion
II	Tumor extends to the pelvis
IIA	Adnexal involvement
IIB	Tumor extends to extrauterine pelvic tissue
III	Tumor invades abdominal tissues (not just protruding into the abdomen).
IIIA	One site
IIIB	>One site
IIIC	Metastasis to pelvic and/or para-aortic lymph nodes
IV	Tumor invades bladder and/or rectum
IVA	
IVB	Distant metastasis
(3) Carcinosarcomas	
Carcinosarcomas should be staged as carcinomas of the endometrium.	

FIGO, International Federation of Obstetrics and Gynecology.
*Simultaneous tumors of the uterine corpus and ovary/pelvis in association with ovarian/pelvic endometriosis should be classified as independent primary tumors.
Reference: *Int J Gynecol Obstet* 104:179, 2009.
Corrigendum in *Int J Gynecol Obstet* 106:277, 2009.