

# Does the New Sarcoma Staging System Better Predict Overall Survival for Leiomyosarcoma?

E. Stevens, T. Pradhan, M. Ablavksy, G. Salame, Y. Lee, O. Abulafia

SUNY Downstate Medical Center & Kings County Hospital Center

Department of Obstetrics & Gynecology – Division of Gynecologic Oncology

Brooklyn, New York



## Abstract

## Background

## Materials and Methods

### Objective:

To determine if the new FIGO 2009 sarcoma staging system better predicts overall survival for uterine sarcomas than the previous FIGO 1988 staging system.

### Methods:

Review of the tumor board registry from January 1988 to January 2010 was performed. Included were all patients with leiomyosarcoma who underwent surgical staging. Excluded were any patients who did not undergo surgical staging, did not undergo surgical staging at our hospitals, or did not have complete information to determine depth of invasion or other necessary staging criteria. Patients who did not undergo pelvic and paraaortic lymph node dissections were included and staged without this information.

### Results:

23 patients were identified and 19 were included with complete data. 10 patients were treated with a TAH/BSO alone; 5 patients underwent additional staging procedures including lymph node dissection and/or omentectomy; 3 patients underwent a SCH and 1 underwent only biopsies. Average age was 56 years (range 35-75). In the old classification, 1 patient was Stage IA, 3 were IC, 3 were IIB, 1 was IIIA, 2 were IIIB and 9 were Stage IVB. Under the new Staging system, 2 patients were now Stage IA, 5 were Stage IB, 1 was IIA, 2 were Stage IIIA, 1 was Stage IIIB and 8 were Stage IVB. 5 patients are currently alive, 2 patients were alive at last contact, and 12 patients are known to be deceased. Overall survival was 24.6 months (range 1-150). One patient is alive who was originally Stage IA, one Stage IC (now IB), one Stage IIB (now IA), two patients are alive who maintained Stage IIIB and IVB, respectively. In the original Stage I patients, the overall survival was 14 months (range 1-27). In the restaged Stage I patients, the overall survival was 19.6 months (range 1-48). In Stage IVB, the overall survival was 17.3 months (range 1-46). The removal of the one patient who was downstaged did not significantly change the overall survival.

### Conclusions:

The aim of a staging system is to provide uniform terminology and appropriate prognosis for patients. Based on our patient population, this new staging system does not predict overall survival any better than the previous staging system. This is likely due to the aggressive nature of the tumor and the non-uniformity of surgical staging and treatment options.

In 2009, FIGO proposed two new staging systems for uterine sarcomas. One was to be applied to leiomyosarcomas and a second to endometrial stromal sarcoma and adenosarcoma.<sup>1</sup> Uterine sarcomas are rare neoplasms, comprising about 1-2% of all gynecologic malignancies.<sup>2</sup> Leiomyosarcoma is the most frequent type of pure uterine sarcomas.<sup>3</sup> It is often diagnosed postoperatively, limiting the ability to perform comprehensive surgical staging. The majority of patients have only a total hysterectomy and bilateral salpingoophorectomy alone. Lymphadenectomy is controversial, and is performed less than 25% of the time.<sup>3</sup>

An acceptable staging system must be valid, practical and reliable.<sup>4</sup> It must give the oncologist valuable information regarding prognosis. Given the rarity of these tumors and the wide range of surgical procedures utilized to stage these patients, it is unknown how well the new staging system will predict survival. Therefore, the purpose of this study is to determine whether the FIGO 2009 staging of patients with uterine leiomyosarcoma can accurately predict patient survival.

## FIGO Staging System for Leiomyosarcoma (2009)

Stage	Definition
<b>I</b>	<b>Tumor Limited to Uterus</b>
IA	< 5 cm
IB	> 5 cm
<b>II</b>	<b>Tumor Extends to Pelvis</b>
IIA	Adenxal Involvement
IIB	Tumor Extends to Extrauterine Pelvic Tissue
<b>III</b>	<b>Tumor Invades Abdominal Tissues</b>
IIIA	One Site
IIIB	Two Sites
IIIC	Metastasis to Pelvic/Paraaortic Lymph Nodes
<b>IV</b>	<b>Other Invasion or Distant Metastasis</b>
IVA	Tumor Invades the Bladder and/or Rectum
IVB	Distant Metastasis

From March 1998 until January 2010, patients with a diagnosis of uterine leiomyosarcoma were retrospectively identified from tumor registry records at two large tertiary medical centers, Downstate Medical Center and Kings County Hospital Center. Demographic and surgical data were collected via tumor registry data, medical chart records, pathology reports and social security death records. Patients were excluded if they did not undergo their primary surgery at our institutions, if the pathology report did not contain the necessary information to restage the patient, or if other data points were missing.

## Results

23 patients were identified during the study period. All patients were black, with the majority (69.6%) of Caribbean descent. 19 patients with complete data were analyzed. Average age was 56 years (range 35-75). More than half the patients, utilizing either the old or new staging system, had an advanced stage at diagnosis - Stage III-IV.

Overall survival was 24.6 months (range 1-150). In the original four Stage I patients, the overall survival was 14 months (range 1-27). In the seven restaged Stage I patients, the overall survival was 19.6 months (range 1-48). In Stage IVB, the overall survival was 17.3 months (range 1-46). The removal of the one patient who was downstaged did not significantly change the overall survival.

## Conclusions

Based on our patient population, this new staging system does not predict overall survival any better than the previous staging system. This is likely due to the aggressive nature of the tumor and the non-uniformity of surgical staging and treatment options.

A separate staging system for uterine sarcomas is important. As more is learned about the prognostic factors and spread of this tumor, this staging system can be refined further to better predict survival.

## References

- FIGO Committee on Gynecologic Oncology. FIGO staging for uterine sarcomas. *International Journal of Gynecology and Obstetrics* 2009; 104: 179.
- D'Angelo E, Prat J. Uterine sarcomas: a review. *Gynecologic Oncology* 2010; 116: 131-139.
- Kapp DS, Shin JY, Chan JK. Prognostic factors and survival in 1396 patients with uterine leiomyosarcomas. *Cancer* 2008; 112(4): 820-830.
- Odicino F, Pecorelli S, Zigliani L et al. History of the FIGO cancer staging system. *International Journal of Gynecology and Obstetrics* 2008; 101: 205-2010.

