Exploring Risk Factors for Recurrence in Stage I Uterine Leiomyosarcomas: Is there a subgroup with a favorable prognosis?

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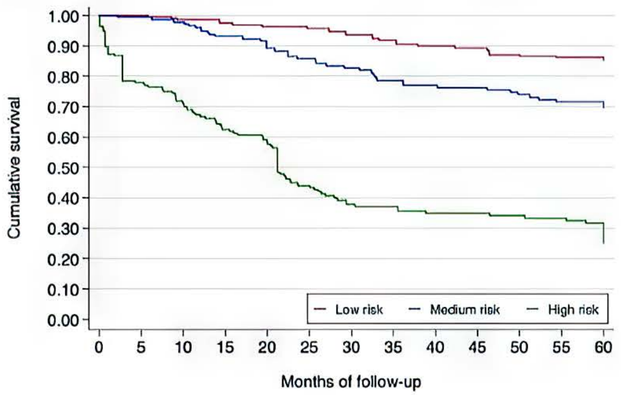
BACKGROUND

Patients with stage I uterine leiomyosarcomas remain at significant risk of recurrence. This has led to an increasing trend in the use of adjuvant chemotherapy, even in the absence of strong prospective data.

However, there may be a subset of patients, as previously observed in the **Daydream study**, who have a more favorable prognosis, although they have not yet been clearly identified. The following figure shows the three risk group classifications, regardless of stage, previously presented at ESGO 2024, based on variables that were significantly associated with overall survival ($p<0.05$) in the multivariate analysis: FIGO stage, tumor size, post-surgical histology, mitoses per 10 HPF, and LSVI.



METHODS

To date, over **830 patients with high-grade uterine sarcomas have been enrolled in Daydream**, an international, multicenter observational study, including surgically resected high-grade uterine sarcomas with or without adjuvant chemotherapy from 2013 to 2018. Our objective was to identify recurrence risk factors in **stage I uterine leiomyosarcomas patients** included. We selected potential prognostic variables based on evidence and used multivariable logistic regression to calculate odds ratio for recurrence. Additionally, we assessed recurrence risk based on the number of risk factors present and adjuvant chemotherapy use.

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RESULTS

A total of **245 stage I uterine leiomyosarcomas patients from Daydream study** have been analyzed.

Among the variables studied, we identified **four risk factors that were significantly associated with recurrence** ($p<0.05$) in a cohort of 245 patients with stage I uterine leiomyosarcomas.

- **Tumor size > 5 cm** (OR 2.1; 95%CI 1.09 - 4.1)
- **> 20 mitoses per 10 high power field** (OR 2.7; 95%CI 1.4 – 5.2)
- **> 50% necrosis** (OR 2.5; 95%CI 1.3 – 4.5)
- **Substantial lymphovascular invasion** (OR 2.1; 95%CI 1.1 – 5.2)

Each additional risk factors was associated to a relative increase in the risk of relapse of 138% (95%CI 81% - 213%). The proportions of women that received adjuvant chemotherapy, were 7%, 28%, 49%, 51% and 87% in the groups of 0, 1, 2, 3 or 4 risk factors, respectively.

Distribution of the 4 risk factors among stage I uLMS patients with and without recurrence:

	Risk factors					
	0	**1**	**2**	**3**	**4**	**Total**
Non-relapse n (%)	**26 (89.7)**	51 (62.2)	26 (37.7)	9 (25.7)	**5 (16.7)**	117 (47.8)
Relapse n (%)	**3 (10.3)**	31 (37.8)	43 (62.3)	26 (74.3)	**25 (83.3)**	148 (52.2)
Total n (%)	29 (11.8)	82 (33.5)	69 (28.2)	35 (14.3)	30 (12.2)	245

CONCLUSIONS

1. This analysis includes a **representative sample of stage I uterine leiomyosarcomas patients**, with a recurrence rate according to the evidence reported, around 50%.
2. Despite the lack of evidence, more than 40% received adjuvant chemotherapy.
3. We identified **a subgroup with a highly favorable prognosis, previously undefined.** These findings highlight uterine leiomyosarcomas' heterogeneity and stress the need for personalized approaches.