Economic burden of dedifferentiated liposarcoma in metastatic and non-metastatic patients:

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A retrospective observational study using Danish population-based register data

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Objectives

The objective of this study was to estimate the economic burden of dedifferentiated liposarcoma in metastatic and non-metastatic patients and compare the burden with other types of liposarcoma and soft tissue sarcoma in Denmark.

Introduction

- Dedifferentiated liposarcoma (DDLPS) is a subtype of liposarcoma (LPS), which is the most common form of soft tissue sarcoma (STS). DDLPS is a rare and aggressive cancer, characterized by a significant risk of recurrence and metastasis, low survival rates and substantial disease burden. However, there is limited evidence on the economic burden of DDLPS.

Methods

- This retrospective observational study included all adults (≥18 years) diagnosed with STS in the Danish cancer registry from January 2005–December 2021. Patients were categorized based on their initial diagnosis into three cohorts, DDLPS, other LPS, and other STS.
- Economic burden assessed during the one-year pre-diagnosis and the first and second years post-diagnosis, included direct medical costs (DMC) for in- and out-patient visits and prescribed drugs. The cost of chemotherapy and surgery were included in in- and out-patient visits.
- Additionally, a subgroup analysis of the DMC in DDLPS patients with metastasis within 90 days of diagnosis was performed.

Results

- A total of 256, 620, and 7,255 patients were identified in the DDLPS, other LPS, and other STS cohorts, respectively.
- Of the 256 DDLPS patients, 36 were metastatic at diagnosis date and 220 were non-metastatic. The non-metastatic group includes 86 patients with unknown metastatic status. Some of these patients may be metastatic which would reduce the observed difference in DMC between the two cohorts.

Table 1. Baseline characteristics of patients with dedifferentiated liposarcoma and other types of liposarcoma and soft tissue sarcoma.

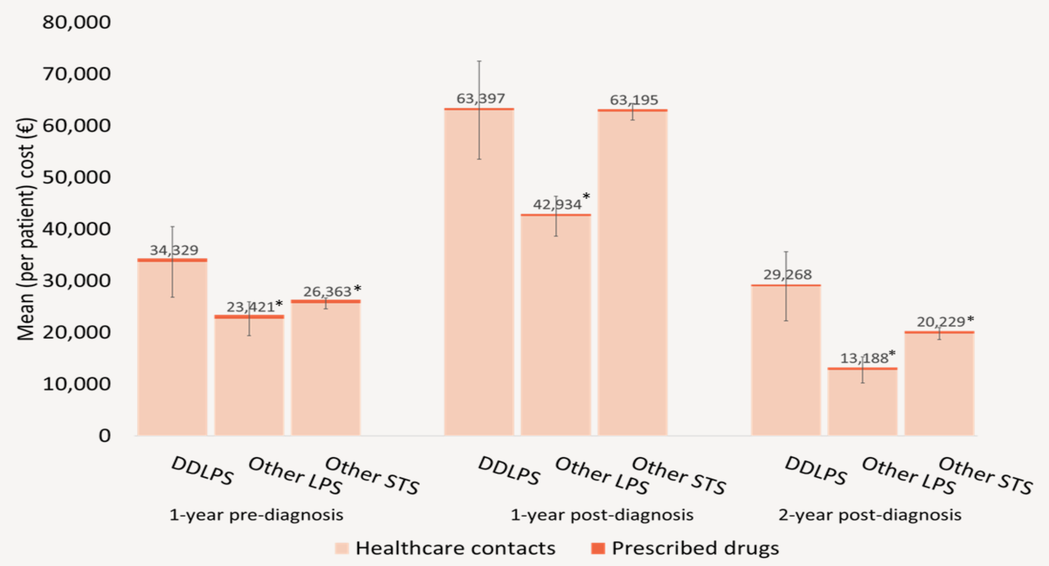
	DDLPS (Metastatic)	DDLPS (Non-metastatic)	Other LPS	Other STS
Number of patients (n)	36	220	620	7,255
Sex				
Males	21 (58%)	150 (68%)	385 (62%)	3,438 (47%)
Females	15 (42%)	70 (32%)	235 (37%)	3,817 (53%)
Age, mean (SD)	63.83 (12.38)	66.27 (11.95)	60.46 (14.39)	59.76(16.63)
18–<65	18 (50%)	83 (32%)	361 (58%)	4,128 (57%)
≥65	18 (50%)	137 (62%)	259 (42%)	3,127 (43%)
Primary site				
Head and neck*			12 (2%)	338 (5%)
Extremities*		43 (20%)	354 (57%)	1,668 (23%)
Pelvis*		23 (10%)	45 (7%)	328 (5%)
Thorax or trunk*		20 (9%)	63 (10%)	850 (12%)
Retroperitoneum, peritoneum, or abdomen	28 (78%)	126 (57%)	118 (19%)	788 (11%)
Unspecified/other	8 (22%)	8 (4%)	28 (5%)	3,283 (45%)
CCI Score				
Mild (1–2)	11 (31%)	61 (28%)	192 (31%)	3,020 (42%)
Moderate (3–4)	18 (50%)	143 (65%)	388 (63%)	3,448 (48%)
Severe (≥5)	7 (19%)	16 (7%)	34 (6%)	681 (9%)
Other prior cancer diagnoses	5 (14%)	7 (3%)	495 (7%)	495 (7%)

Note: * Reported in Unspecified/other. **Abbreviations:** DDLPS. Dedifferentiated liposarcoma; LPS. Liposarcoma; STS. Soft tissue sarcoma; CCI. Charlson comorbidity index. SD. Standard deviation

Results

- DMC in the DDLPS cohort increased from 34,329€ in the pre-index period to 63,397€ in the first-year post-diagnosis. Similar increases in DMC were observed in the other LPS and other STS cohort. DMC were driven by the cost of in- and out-patients visits
- DMC were higher in the DDLPS cohort in all three time-periods compared to the LPS and STS (**Figure 1**).

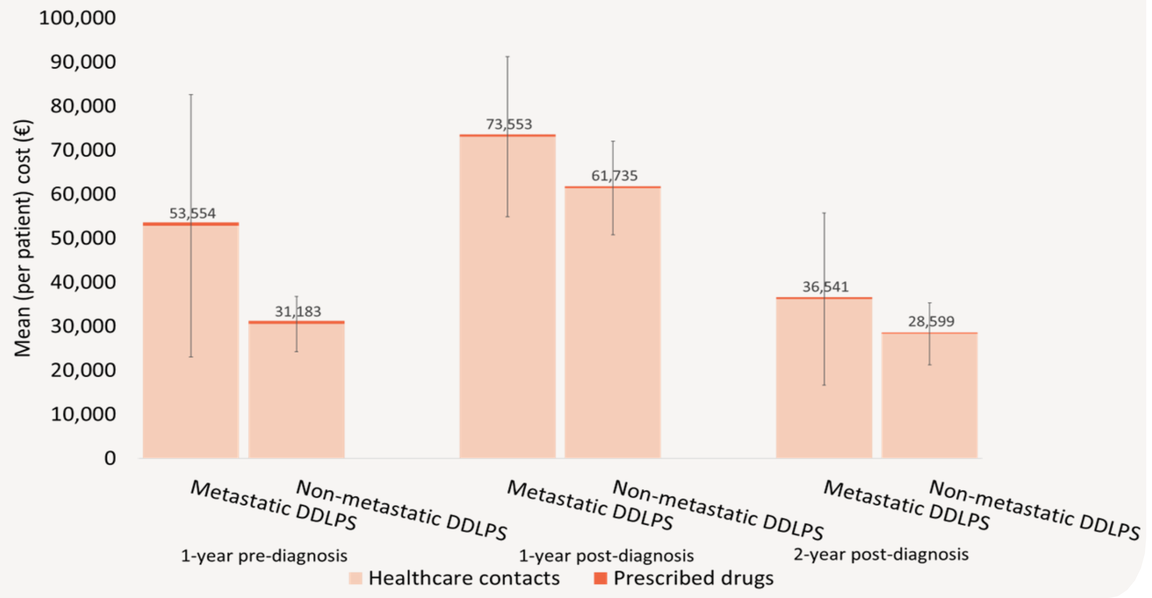
Figure 1. Direct medical costs of healthcare resource utilization in dedifferentiated liposarcoma and other types of liposarcoma and soft tissue sarcoma.



** Statistically significant difference when compared to DDLPS (p < 0.05)*

- DDLPS patients with metastasis had a higher DMC than those without. In the first-year post-diagnosis, the average DMC of patients with metastasis was 73,553€ compared to 61,753€ in patients without metastatic DDLPS (**Figure 2**).

Figure 2. Direct medical costs of healthcare resource utilization in metastatic and non-metastatic dedifferentiated liposarcoma patients.



Conclusions

The direct medical costs per patient are higher in DDLPS compared to LPS and STS, leading to a significant economic burden associated with these patients.

Management of DDLPS patients with metastasis is associated with higher costs compared to management of patients without metastasis.

Disclosures
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