

## Advance soft tissue sarcoma and aggressive care at end-of-life: a single-center retrospective cohort study.





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# **BACKGROUND**

Soft tissue sarcomas (STS) are rare cancers with a poor prognosis. Aggressive end-of-life (EOL) care in Oncology is a key issue. The specific nature of STS may give rise to a different attitude to EOL care compared with other cancers.

## **OBJECTIVES**

We evaluate palliative care outpatient interventions on aggressive EOL care for advance STS and seek to establish an association between sociodemographic factors and EOL aggressiveness criteria.

### **METHODS**

A single-centre retrospective cohort study with deceased STS patients over a two-year period at Institut Curie (Paris, France). Aggressive EOL criteria was based on Earle et al. (2003) and sorted into two groups : the first group ≤1 criterion and the second group ≥2 criteria. We tested association between clinical variables (age, gender, histological subtype, anatomic site, initial disease status, undernutrition, tumor wound, lung effusion, bowel obstruction, spinal cord compression, and superior vena cava syndrome) and three palliative care outpatient interventions (outpatient consultation, day hospital, and telehealth consultation).

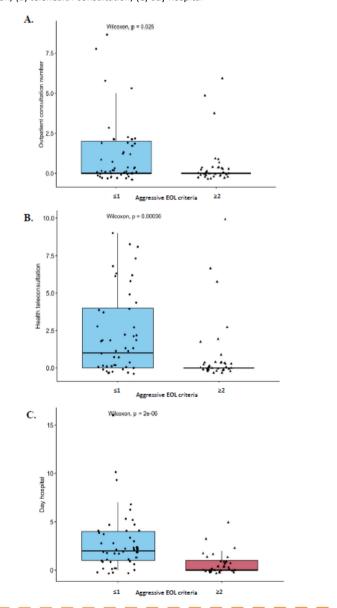
## **RESULTS**

A total of 84 patients were included. Median palliative care follow-up [SD] was 3.5 [162] months. Median age [SD] at diagnosis was 66.6 [14.8] years. Most patients had a locally advanced/metastatic disease (N=56, 66%) with primary visceral presentation (N=32, 38%), encompassing leiomyosarcoma (N=21, 25%) and liposarcoma (N=17, 20%) histological subtypes. During follow-up, most patients had undernutrition (N=68, 81%), tumor wound (N=23, 27%), and lung effusion (N=21, 25%). Thirty-six patients (N=36, 43%) were in the second group of aggressive EOL care. (Table 1)

	Patients	Aggressive c	p-value	
		≤ 1 criteria	≥ 2 criteria	
•	(n = 84)	(n = 48)	(n = 36)	-
Age at diagnosis, years				0.52
Median (SD)	66.6 (14,8)			
Follow-up, month				
Median (SD)	3.3 (162)			
Gender, n (%)				1
Male	35 (41.7 %)	20 (41.7 %)	21 (58.3 %)	
Female	49 (58.3 %)	28 (58.3 %)	15 (41.7 %)	
Histological subtypes, n (%)				0.74
Leiomyosarcoma	21 (25.0 %)	10 (11.9 %)	11 (13.1 %)	
Liposarcoma	17 (20.2 %)	11 (13.1 %)	6 (7.1 %)	
Angiosarcoma	7 (8.3 %)	4 (4.8 %)	3 (3.6 %)	
Rhabdomyosarcoma	5 (6.0 %)	2 (2.4 %)	3 (3.6 %)	
Fibrosarcoma	5 (6.0 %)	4 (4.8 %)	1 (1.2 %)	
Synovialosarcoma	3 (3.5 %)	1 (1.2 %)	2 (2.4 %)	
Others	26 (31.0 %)	16 (19.0%)	10 (11.9 %)	
Anatomic sites, n (%)				0.91
Visceral	32 (38.1 %)	18 (21.4 %)	14 (16.7 %)	
Limb	19 (22.6 %)	11(13.1 %)	8 (9.5 %)	
Retroperitoneal	16 (19.0 %)	9 (10.7 %)	7 (8.3 %)	
Mediastinal	12 (14.3 %)	8 (9.5 %)	4 (4.8 %)	
Head and neck	5 (6.0 %)	2 (2.4 %)	3 (3.6 %)	
Status at diagnosis				0.41
Localised	28 (33.3 %)	18 (37.5 %)	19 (27.8 %)	
Locally advance	38 (45.2 %)	22 (45.8 %)	16 (44.4 %)	
Metastatic	18 (21.4 %)	8 (16.7 %)	10 (27.8 %)	
ECOG Performans status at diagnosis				0.33
0	50 (59.5 %)	30 (35.7 %)	20 (23.8 %)	
1	28 (33.3 %)	13 (15.5 %)	15 (17.9 %)	
2	3 (3.6 %)	2 (2.4 %)	1 (1.2 %)	
3	3 (3.6 %)	3 (3.6 %)	0 (0 %)	
4	0 (0 %)	0 (0 %)	0 (0 %)	
Anticancer drugs received, n (%)				0.92
No anticancer drugs administered	20 (23.8 %)	12 (14.3 %)	8 (9.5 %)	
One line	12 (14.3 %)	7 (8.3 %)	5 (6.0 %)	
Two lines	16 (19.0 %)	8 (9.5 %)	8 (9.5 %)	
Three lines	17 (20.3 %)	11 (13.1 %)	6 (7.1 %)	
≥ Four lines	19 (22.6 %)	10 (11.9 %)	9 (10.7 %)	
Clinical syndromes			*****	
Undernutrition	68 (81.0 %)	40 (58.8 %)	28 (41.2 %)	0.58
Lung effusion	21 (25.0 %)	15 (71.4 %)	6 (28.6 %)	2.25
Tumor wound	23 (27.4 %)	13 (56.5 %)	10 (43.5 %)	1
Bowel obstruction	15 (17.9 %)	7 (46.7 %)	8 (53.3 %)	0.40
Ascitis	10 (11.9 %)	3 (30.0 %)	7 (70.0 %)	0.28
Spinal cord compression Superior vena cava syndrom	7 (8.3 %) 5 (5.6 %)	4 (57.1 %) 3 (60.0 %)	3 (42.9 %) 2 (40.0 %)	1

We reported a significant association between the numbers of palliative care outpatient interventions (outpatient consultation, p <0.005; day hospital, p <0.005; and telehealth consultation, p = 0.025) and aggressive EOL care (Figure 1). There were no associations between clinical variables and aggressive EOL care. (Figure 1)

Figure 1 Aggressive care at EOL considering ambulatory palliative care modalities as (A)



#### Table 2, Multivariate analysis of EOLs by follow-up method and socio-demographic criter

	Variable N		Odds ratio		P	
	nb_lines		84	H <b>EE</b> H	1.26 (0.88, 1.92)	0.24
After multivariate analysis, the day hospital appears to be a protective factor against aggressive end-of-life care with an odds ratio <1 (p <0,001).  This also applies to consultations (p = 0,06) (Table 2)	nb_Cs		84	H■	0.73 (0.50, 0.98)	0.06
	nb_HDJ		84	⊢■→	0.34 (0.16, 0.59)	<0.001
	nb_Tes		84	<b></b>	1.01 (0.73, 1.42)	0.95
	Gender	Female	49	•	Reference	
		Male	35	<b>—</b>	1.17 (0.31, 4.40)	0.81
	ECOG	0	50	<b>±</b>	Reference	
		≥1	34	<b>—</b>	2.12 (0.63, 7.76)	0.23
	age_diag		84		1.00 (0.95, 1.04)	0.87
	c.status	localised	28	<b>–</b>	Reference	
		locally advanced	38	<b>——</b>	1.79 (0.44, 7.82)	0.42
		metastasic	18	-	4.55 (0.81, 31.71)	0.10
	o.histology	leiomyosarcoma	21	<b>=</b>	Reference	
		liposarcoma	17	<b>⊢</b>	0.72 (0.11, 4.62)	0.73
		Other	46	02 05 1 2 5 10 20	0.76 (0.17, 3.24)	0.71

## **DISCUSSION**

Our study found no association between sociodemographic factors and EOL aggressiveness criteria. This result differs from the association found in many studies based on a population followed for all types of cancers combined (Bylicki and al. 2019). This may be due to sampling fluctuation and the size of our cohort.

To our knowledge, there are no studies in the scientific literature on the different modalities of palliative care in France and on the aggressive EOL care. This may be partly due to the fact that palliative care interventions in France differ from Anglo-Saxon models.

With the evolution of oncology therapies and patients' will to play an active role in their care, it may be worthwhile to redefine new criteria for aggressive end-of-life care. Perhaps using patientreported outcome measures (PROMs) and patient-reported experience measures (PREMs).

## CONCLUSION

Our results suggest the importance of outpatient palliative care follow-up to reduce the aggressive EOL care for STS patients. These results are confirmed by a multivariate analysis model. Day hospital and consultations appear to reduce the aggressive EOL care.

It seems worthwhile to expand this study into a multicenter study. This will allow a wider range of results to be obtained.

#### REREFENCES

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## CONTACT

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