

Supplementary Table 1: Univariate and multivariate analyses of clinicopathologic variables associated with 5-year OS in 61 patients who underwent surgery for giant RLS.

Variable	<i>n</i> (%)	Univariate analysis		Multivariate analysis	
		HR (95% CI)	<i>P</i> -value	HR (95% CI)	<i>P</i> -value
Gender					
Male	34 (56)	Reference	—	—	—
Female	27 (44)	1.552 (0.773–3.118)	0.217	—	—
Age (years)					
≤55	32 (52)	Reference	—	—	—
>55	29 (48)	1.574 (0.784–3.161)	0.202	—	—
Blood type					
A	20 (33)	Reference	—	—	—
B	13 (21)	1.219 (0.485–3.068)	0.674	—	—
AB	5 (8)	0.271 (0.035–2.078)	0.209	—	—
O	23 (38)	0.814 (0.365–1.818)	0.616	—	—
ASA score					
<3	36 (59)	Reference	—	—	—
≥3	25 (41)	1.297 (0.638–2.634)	0.472	—	—
Resection times					
1	15 (25)	Reference	—	—	—
2	19 (31)	7.056 (2.203–22.602)	0.001*	5.627 (1.245–25.432)	0.025*
3	11 (18)	8.769	<0.001*	2.162	0.348

		(2.509–30.645)		(0.431–10.836)	
4	11 (18)	4.163 (1.113–15.578)	0.034*	9.049 (1.573–52.072)	0.014*
5	4 (7)	3.566 (0.794–16.009)	0.097	1.393 (0.171–11.319)	0.757
6	1 (2)	21.747 (2.213–213.678)	0.008*	21.701 (1.118–421.379)	0.042*
Resection method					
En bloc resection	40 (66)	Reference	–	–	–
Piecemeal resection	11 (18)	2.817 (1.194–6.649)	0.018*	9.733 (1.995–47.491)	0.005*
Palliative resection	10 (16)	10.797 (3.821–30.511)	<0.001*	5.010 (0.894–28.093)	0.067
Operation time (min)					
≤280	33 (54)	Reference	–	–	–
>280	28 (46)	1.287 (0.636–2.603)	0.483	–	–
Intraoperative bleeding volume (mL)					
<1500	30 (49)	Reference	–	–	–
≥1500	31 (51)	2.579 (1.254–5.302)	0.010*	1.074 (0.311–3.707)	0.910
Total transfusion volume (mL)					
<1870	30 (49)	Reference	–	–	–
≥1870	31 (51)	2.714 (1.327–5.550)	0.006*	0.800 (0.147–4.364)	0.796
Hospital stay (days)					
<20	27 (44)	Reference	–	–	–

≥20	34 (56)	0.914 (0.450–1.856)	0.804	–	–
Postoperative complication					
I	19 (31)	Reference	–	–	–
II–IV	42 (69)	3.657 (1.539–8.689)	0.003*	5.375 (1.135–25.450)	0.034*
Postoperative drainage volume (mL)					
<860	30 (49)	Reference	–	–	–
≥860	31 (51)	1.408 (0.710–3.956)	0.172	–	–
Invaded vessel					
I Artery vein	32 (52)	Reference	–	–	–
II Artery	2 (3)	2.041 (0.465–8.963)	0.345	–	–
III Vein	10 (16)	1.217 (0.475–3.116)	0.683	–	–
IV None	17 (28)	1.005 (0.430–2.350)	0.990	–	–
Tumor morphology					
Phyllodes	25 (41)	Reference	–	–	–
Others	36 (59)	1.749 (1.048–3.607)	0.031*	0.642 (0.171–2.413)	0.512
Tumor size (cm)					
<35	23 (38)	Reference	–	–	–
≥35	38 (62)	1.738 (0.802–3.768)	0.161	–	–
Tumor number					
Single	20 (33)	Reference	–	–	–

Multiple	41 (67)	3.121 (1.270–7.667)	0.013*	2.380 (0.672–8.430)	0.179
Completeness of tumor capsule					
Complete	29 (48)	Reference	—	—	—
Incomplete	32 (52)	2.818 (1.347–5.897)	0.006*	1.376 (0.402–4.715)	0.611
Pathological subtype					
WDL	34 (56)	Reference	—	—	—
MLS	13 (21)	3.327 (1.507–7.346)	0.003*	3.272 (0.918–11.666)	0.068
PLS	3 (5)	0.525 (0.069–3.987)	0.534	0.233 (0.015–3.517)	0.293
DDL	11 (18)	3.341 (1.167–9.566)	0.025*	1.326 (0.284–6.188)	0.719
Pathological subtype group					
WDL	34 (56)	Reference	—	—	—
Non-WDL	27 (44)	2.473 (1.226–4.991)	0.011*	—	—
Status of surgical margin					
Negative	41 (67)	Reference	—	—	—
Positive	20 (33)	4.086 (1.965–8.496)	<0.001*	5.290 (1.370–20.432)	0.016*
Cumulative number of resected organs					
None	20 (33)	Reference	—	—	—
1	10 (16)	1.197 (0.443–3.231)	0.723	—	—
2	14 (23)	1.009	0.984	—	—

		(0.412–2.471)			
≥3	17 (28)	0.561 (0.210–1.499)	0.249	–	–

* $P < 0.05$. Complication was scored using Clavien–Dindo classification standard. ASA: American Society of Anesthesiologists; CI: Confidence interval; DDL: Dedifferentiated liposarcoma; HR: Hazard ratio; MLS: Myxoid cell liposarcoma; OS: Overall survival; PLS: Pleomorphic liposarcoma; RLS: Retroperitoneal liposarcoma; WDL: Well-differentiated liposarcoma; –: Not applicable.

Supplementary Table 2: Univariate and multivariate analyses of clinicopathologic variables associated with 5-year RFS in 41 of the 61 patients who underwent complete resection for giant RLS.

Variable	<i>n</i> (%)	Univariate analysis		Multivariate analysis	
		HR (95% CI)	<i>P</i> -value	HR (95% CI)	<i>P</i> -value
Gender					
Male	25 (61)	Reference	–	–	–
Female	16 (39)	0.988 (0.485–2.012)	0.618	–	–
Age (years)					
≤55	17 (41)	Reference	–	–	–
>55	24 (59)	0.871 (0.435–1.745)	0.608	–	–
ASA score					
<3	29 (71)	Reference	–	–	–
≥3	12 (29)	0.468 (0.191–1.146)	0.487	–	–
Resection times					
1	15 (37)	Reference	–	–	–
2	11 (27)	2.133	0.114	2.109	0.083

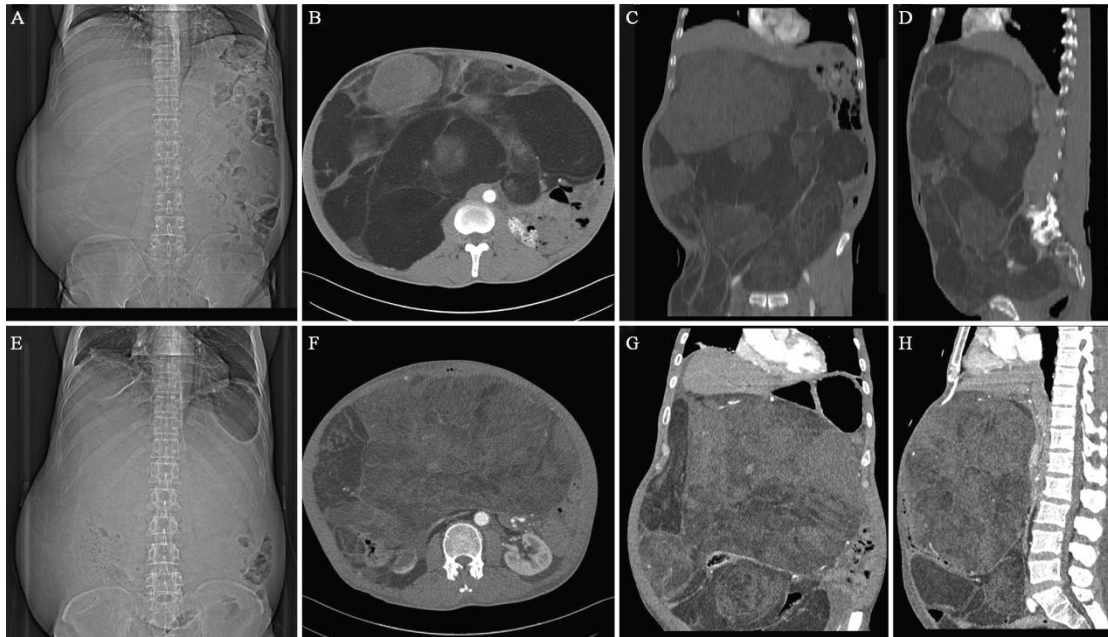
		(0.833–5.465)		(0.644–3.682)	
3	4 (10)	3.157 (1.034–9.641)	0.044*	3.973 (2.012–4.609)	0.027*
4	7 (17)	1.586 (0.572–4.392)	0.375	1.433 (0.732–3.873)	0.291
5	3 (7)	1.330 (0.364–4.859)	0.667	1.258 (0.274–3.880)	0.675
6	1 (2)	16.111 (1.658–156.549)	0.015*	1.056 (0.677–3.579)	0.095
Resection method					
En bloc resection	35 (85)	Reference	–	–	–
Piecemeal resection	6 (15)	2.625 (0.937–7.356)	0.179	–	–
Operation time (min)					
≤255	21 (51)	Reference	–	–	–
>255	20 (49)	1.035 (0.519–2.064)	0.392	–	–
Intraoperative bleeding volume (mL)					
<1500	20 (49)	Reference	–	–	–
≥1500	21 (51)	1.467 (0.728–2.953)	0.466	–	–
Postoperative complication					
I	15 (37)	Reference	–	–	–
II–IV	26 (63)	0.860 (0.430–1.721)	0.905	–	–
Postoperative drainage volume (mL)					
<720	20 (49)	Reference	–	–	–

≥720	21 (51)	1.570 (0.790–3.121)	0.318	–	–
Invaded vessel					
I Artery+vein	22 (54)	Reference	–	–	–
II Artery	1 (2)	2.469 (0.549–11.105)	0.239	–	–
III Vein	6 (15)	0.994 (0.363–2.722)	0.948	–	–
IV None	12 (29)	1.144 (0.517–2.532)	0.740	–	–
Tumor morphology					
Phyllodes	19 (46)	Reference	–	–	–
Others	22 (54)	1.046 (0.527–2.078)	0.892	–	–
Tumor size (cm)					
<35	16 (39)	Reference	–	–	–
≥35	25 (61)	0.976 (0.478–1.991)	0.583	–	–
Tumor number					
Single	17 (41)	Reference	–	–	–
Multiple	24 (59)	1.083 (0.989–4.385)	0.301	–	–
Completeness of tumor capsule					
Complete	25 (61)	Reference	–	–	–
Incomplete	16 (39)	1.986 (1.069–4.070)	0.012*	0.044 (0.889–4.698)	0.283
Pathological subtype					
WDL	25 (61)	2.069 (0.858–4.990)	0.105	0.200 (0.050–0.810)	0.026*

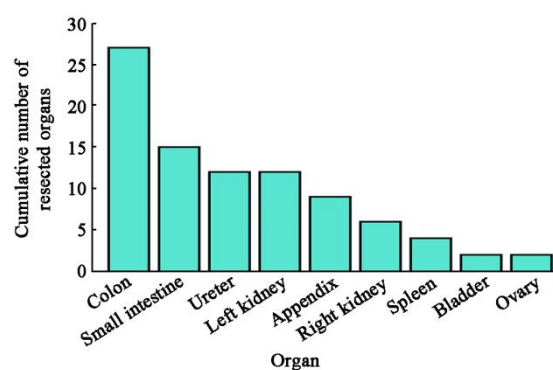
MLS	9 (22)	1.144 (0.265–4.929)	0.857	0.284 (0.058–1.378)	0.118
PLS	2 (5)	4.898 (1.913–9.201)	0.043*	2.201 (0.262–18.480)	0.467
DDL	5 (12)	Reference	–	–	–
Pathological subtype group					
WDL	25 (61)	Reference	–	–	–
Non-WDL	16 (39)	2.667 (0.826–3.367)	0.055	–	–
Cumulative number of resected organs					
None	11 (27)	Reference	–	–	–
1	7 (17)	1.233 (0.438–3.471)	0.752	–	–
2	10 (24)	0.859 (0.330–2.236)	0.755	–	–
≥3	13 (32)	1.074 (0.434–2.655)	0.878	–	–

* $P < 0.05$. Complication was scored using Clavien–Dindo classification standard. ASA: American Society of Anesthesiologists; CI: Confidence interval; DDL: Dedifferentiated liposarcoma; HR: Hazard ratio; MLS: Myxoid cell liposarcoma; PLS: Pleomorphic liposarcoma; RFS: Recurrence-free survival; RLS: Retroperitoneal liposarcoma; WDL: Well-differentiated liposarcoma; –: Not applicable.

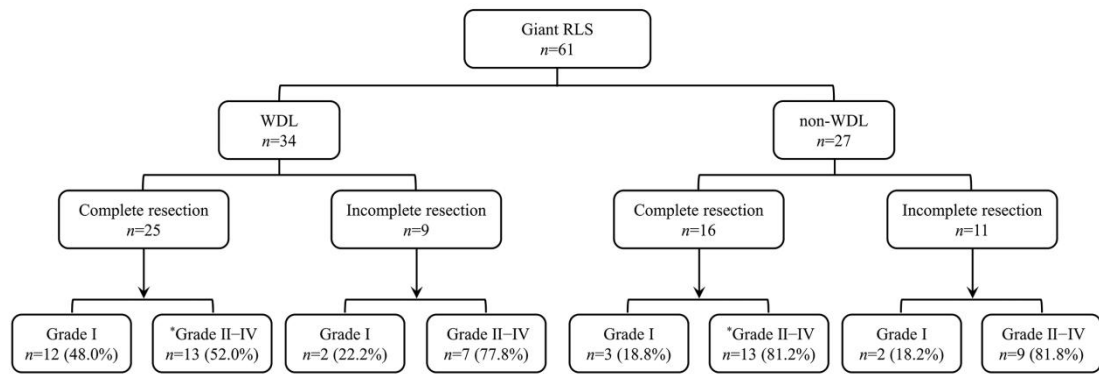
Figures



Supplementary Figure 1: Preoperative imaging examinations of two cases with giant RLS. The images of X-ray (A, E) and cross-sections (B, F), coronal planes (C, G), and sagittal planes (D, H) of CT from two cases with giant RLS. CT: Computerized tomography; RLS: Retroperitoneal liposarcoma.



Supplementary Figure 2: The histogram of the cumulative number of resected organs of included giant RLS patients in this study. RLS: Retroperitoneal liposarcoma.



Supplementary Figure 3: The illustration to show the proportions of patients with giant RLS based on pathological subtypes, resection completeness, and postoperative complication grades. *: The percentage of Grade II–IV complications occurred among patients who received complete resection in the WDL and non-WDL groups. RLS: Retroperitoneal liposarcoma; WDL: Well-differentiated liposarcoma.