Patterns of Recurrence and Clinical Outcomes Following Surgery for Primary Retroperitoneal Leiomyosarcoma

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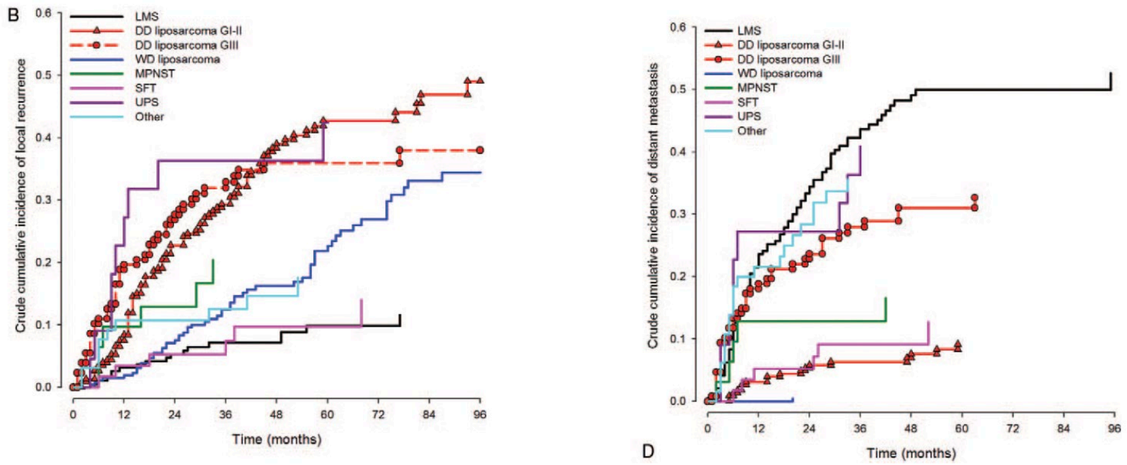
TARPSWG

Background

- Primary retroperitoneal LMS: 20/25% of all RPS.
- LMS are characterized by aggressive oncological behaviour and poorer long-term overall survival compared to other histologies (low risk of local recurrence, but very high risk of distant metastases).
- Previous literature reports old data (e.g. 2002 – 2011).
- **Aim:** to analyze contemporary outcomes and patterns of recurrence in patients undergoing surgery for primary retroperitoneal LMS.



Gronchi et al. 2016, Ann Surg

Methods

- Primary objective: To describe overall survival (OS), local recurrence (LR), and distant metastasis (DM) following surgery for primary LMS. Compare with previous study by Gronchi et all. to assess improvement over time.
- Secondary objectives: To assess additional potential prognostic factors beyond established ones (e.g. tumour grade), with a particular interest on:
- ***preoperative chemotherapy***. Specifically, the overall response to chemotherapy and outcomes will be evaluated as well as the response to different chemotherapy regimens.
- ***anatomical origin of the tumour*** (e.g., vascular origin such as from the inferior vena cava or renal vein).
- ***preoperative biopsy accuracy.***

Methods

- Population of interest: LMS operated on between 2016 – 2024 (RESAR).
- Additional data fields: exact tumour's origin (e.g. gonadal vein etc).

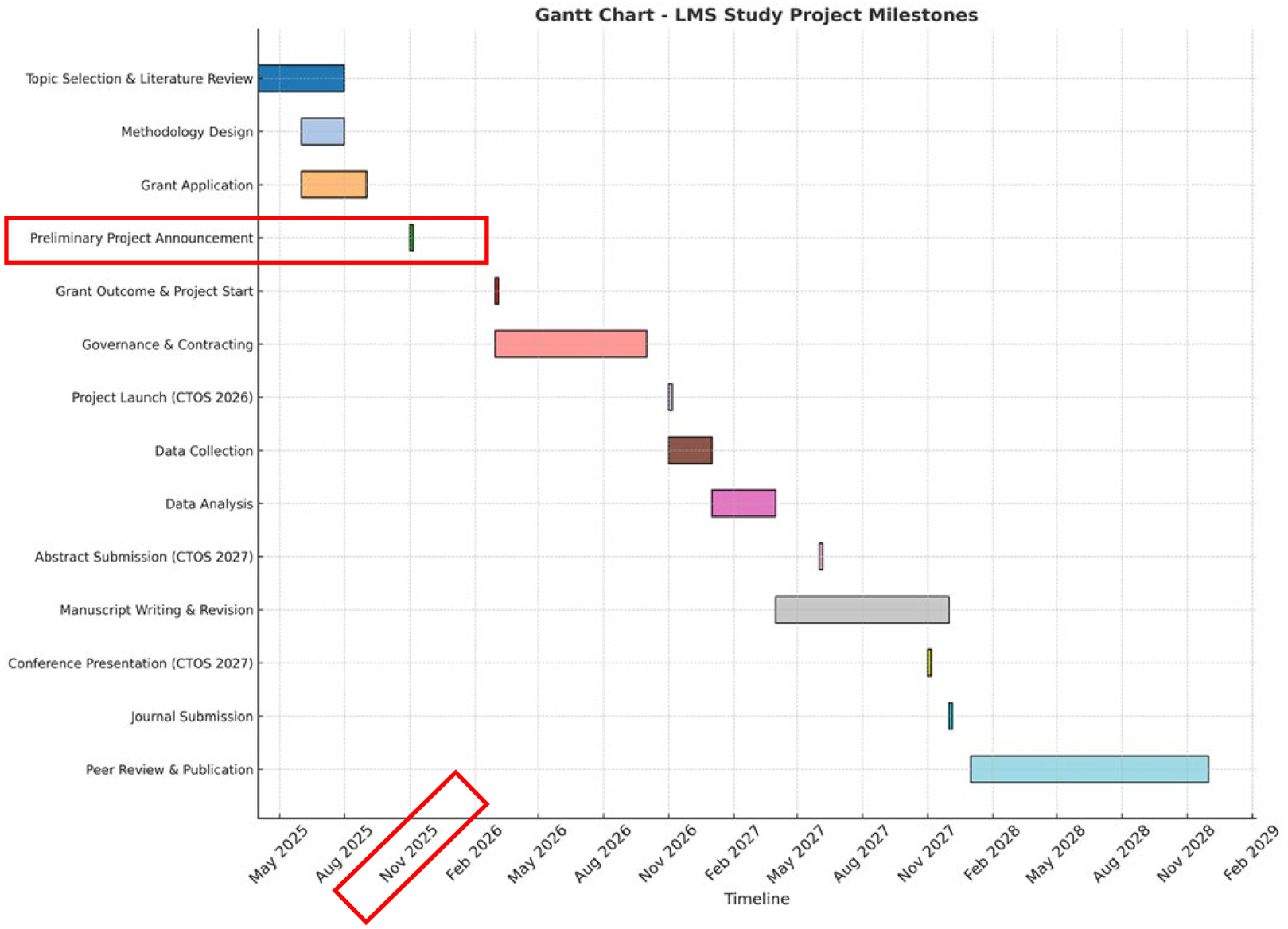
Statistics

- OS for the cohort will be assessed using Kaplan-Meier curves, with rates of LR and DM quantified using competing-risks regression models with death, LR and DM as the three competing events.
- Consistency of tumour grading between preoperative biopsy and postoperative histology will be quantified using percentage agreement and weighted Kappa statistics.
- Multivariable Cox regression models will then be used to identify independent prognostic factors, with the anatomical origin of the tumour and use of preoperative chemotherapy being of particular interest.

Importance

- Largest reported series of outcomes for patients treated for primary retroperitoneal LMS.
- To identify prognostic factors, either confirming those already known or uncovering new ones.
- To evaluate whether preoperative chemotherapy is associated with improved outcomes.
- Help to design new clinical trials based on our findings.

Plan


Gantt Chart - LMS Study Project Milestones
Topic Selection & Literature Review
Methodology Design
Grant Application
Preliminary Project Announcement
Grant Outcome & Project Start
Governance & Contracting
Project Launch (CTOS 2026)
Data Collection
Data Analysis
Abstract Submission (CTOS 2027)
Manuscript Writing & Revision
Conference Presentation (CTOS 2027)
Journal Submission
Peer Review & Publication
May 2025
Aug 2025
Nov 2025
Feb 2026
May 2026
Aug 2026
Nov 2026
Feb 2027
May 2027
Aug 2027
Nov 2027
Feb 2028
May 2028
Aug 2028
Nov 2028
Feb 2029
Timeline

Plan

- Application submitted to the RESAR governance committee in July 2025

Join us!

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