Title of metanalysis :

# **Preoperative radiotherapy combined with surgery versus surgery alone for primary retroperitoneal sarcoma: a meta-analysis**

PubMed ID of metaanalysis: 39779764

**Search terms**:

(preoperative OR neoadjuvant) AND ("retroperitoneal sarcoma") AND (radiotherapy OR radiation)

**Inclusion Criteria:**

The target of the search was to obtain articles that met the following inclusion criteria: direct comparison between SA and preRT + S for RPS; assessment of LR, ARFS, overall survival (OS), and treatment-related complications; and result presentation in a form that allowed quantitative synthesis.

**Exclusion Criteria:**

After excluding duplicate articles, the search results were screened by title and abstract according to the following exclusion criteria: reviews, case reports, guidelines, letters, commentaries, conference abstracts, experiments, and not related to RPS.

After eliminating the excluded papers, the full text of the eligible articles was obtained and thoroughly screened again using the same exclusion criteria. We excluded articles for the following reasons: inclusion of other treatments, such as chemotherapy and hyperthermia; no comparative studies regarding the two treatment arms; recurrent tumors; regression analysis of prognostic factors; and studies regarding wound problems. The references of all included papers were also examined to identify other relevant articles. Any disagreements between the reviewers were resolved through discussion.

Search Date: January 2, 2024,

Included studies: 13

|  |  |
| --- | --- |
| Study title | Pubmed ID of included study |
| Lane, W. O. et al. Analysis of perioperative radiation therapy in the surgical treatment of primary and recurrent retroperitoneal sarcoma. J. Surg. Oncol. 112, 352–358 (2015). | * **26238282** |
| Bonvalot, S. et al. Preoperative radiotherapy plus surgery versus surgery alone for patients with primary retroperitoneal sarcoma (EORTC-62092: STRASS): A multicentre, open-label, randomised, phase 3 trial. Lancet Oncol. 21, 1366–1377 (2020). | * **32941794** |
| Callegaro, D. et al. Preoperative radiotherapy in patients with primary retroperitoneal sarcoma: EORTC-62092 trial (STRASS) versus Off-trial (STREXIT) results. Ann. Surg. 278, 127–134 (2023). | * **35833413** |
| Molina, G. et al. Preoperative radiation therapy combined with radical surgical resection is associated with a lower rate of local recurrence when treating unifocal, primary retroperitoneal liposarcoma. J. Surg. Oncol. 114, 814–820 (2016). | * **27634478** |
| Kelly, K. J. et al. Comparison of perioperative radiation therapy and surgery versus surgery alone in 204 patients with primary retroperitoneal sarcoma: A retrospective 2-institution study. Ann. Surg. 262, 156–162 (2015). | * **26061213** |
| Bachmann, R. et al. Perioperative strategy and outcome in giant retroperitoneal dedifferentiated liposarcoma-results of a retrospective cohort study. World J. Surg. Oncol. https://doi.org/10.1186/s12957-020-02069-2 (2020). | * **33183309** |
| Bredbeck, B. C. et al. Factors associated with disease-free and abdominal recurrence-free survival in abdominopelvic and retroperitoneal sarcomas. J. Surg. Oncol. 125, 1292–1300 (2022). | * **35239187** |
| Chouliaras, K. et al. Role of radiation therapy for retroperitoneal sarcomas: An eight-institution study from the US sarcoma collaborative. J. Surg. Oncol. 120, 1227–1234 (2019). | * **31486096** |
| De Wever, I., Laenen, A. & Van Limbergen, E. Pre-operative irradiation for retroperitoneal liposarcoma: Results of a pilot study. Acta. Chir. Belg. 113, 315–321 (2013). | * **24294794** |
| Ecker, B. L. et al. Preoperative radiotherapy in the management of retroperitoneal liposarcoma. Br. J. Surg. 103, 1839–1846 (2016). | * **27682864** |
| Erstad, D. J. et al. Clinical impact of external beam radiotherapy for surgically resected primary retroperitoneal liposarcoma. Ann. Surg. Oncol. 30, 926–940 (2023). | * **36115928** |
| Nussbaum, D. P. et al. Preoperative or postoperative radiotherapy versus surgery alone for retroperitoneal sarcoma: a case-control, propensity score-matched analysis of a nationwide clinical oncology database. Lancet Oncol. 17, 966–975 (2016). | * **27210906** |
| Stucky, C. C. et al. Excellent local control with preoperative radiation therapy, surgical resection, and intra-operative electron radiation therapy for retroperitoneal sarcoma. J. Surg. Oncol. 109, 798–803 (2014). | * **24862926** |