PO-0766
Is dose de-escalation possible in sarcoma patients treated with extended limb sparing resection?
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Purpose or Objective: To evaluate the impact of a dose escalation > 50 Gy in a large series of resected limbs soft tissue sarcomas (STS).

Material and Methods: Data were retrospectively analyzed from 414 consecutive localized limbs STS patients who received irradiation and enlarged surgery at Gustave Roussy from 05/1993 to 05/2012. RT dose level were decided in multidisciplinary staff and depended upon the quality of surgery and margins size.

Results: The median age was 52 years, the median tumor size was 89 mm, most patients had proximal locations (72%), and G2-3 tumors (79%). Available histologic analyses after surgery revealed 84% unifocal tumors and free-tumor margins >1 mm in 69% of cases. Radiotherapy was delivered prior (13%) or after (87%) surgery. Seven patients (2%) had percutaneous or postoperative RT boost. Median delivered RT dose was 50 Gy (36-70 Gy), and 40% received >50Gy. At a median follow-up of 5.5 years, the 5-year local recurrence (LRRs) were 7%, 4%, and 13% in the general population, in patients receiving <50Gy and in those who had >50 Gy (p<0.001), respectively. Despite this may due to confounding factors, a dose >50 Gy (HR: 2.6; p<0.04) remained associated with higher LRRs in the multivariate analysis (MVA), as well as histological subtypes (HR: 3.7; p=0.002), and surgical margins <1mm (HR: 3.2; p=0.008). Grade, age, and tumour size were not associated with LRRs in the MVA.

Conclusion: In this retrospective analysis of patients having enlarged surgery and RT dose escalation did not allow offsetting local recurrence in high-risk patients. This should be evaluated in a larger set of patients all having enlarged surgery. A Prospective study allowing dose refinement in this setting is required.

PO-0767
Does fluid collection have an impact on radiotherapy outcomes after excision of soft tissue sarcoma?
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Purpose or Objective: Fluid collection of lymph or blood may accumulate at the site of excision after surgery for soft tissue sarcoma, with reported incidence rates from 10-36%. Though small fluid collections have a high probability of being completely covered within the postoperative radiotherapy (PORT) field, large fluid collections may require a more extensive expansion of CTVs. This study is an unprecedent analysis of fluid collection in relation to radiotherapy outcomes after wide excision of soft tissue sarcoma (STS).

Material and Methods: Medical records of 151 patients with STS treated with wide excision followed by adjuvant PORT between 2004 and 2014 were retrospectively reviewed. Only non-recurrent and non-metastatic patients were included. After evaluation of CT and MR images taken at the time of PORT planning, fluid collection was detected in 46 patients (30.3%). Because fluid collection developed more commonly in lower extremity (p<0.001) and higher grade tumors (p=0.095), only these patients were included in further analyses (n=76). Fluid collection was present in 35 (46.1%) patients, of which 74.3% and 25.7% had, respectively, either complete or partial coverage in planning target volumes (PTVs) throughout the entire course of PORT.

Results: After a median follow-up of 41 months, patients with and without fluid collection demonstrated local failure rates of 14.3% and 9.8%, and 5-year local control (LC) rates of 83.1% and 86.8%, respectively. The presence of fluid collection had no statistical impact on the clinical outcomes of PORT. Partial coverage of fluid collection showed a low 5-year LC rate of 77.8% compared with 85.5% and 86.8% for patients that had complete PTV coverage or absence of fluid collection, respectively, without statistical significance. Post-PORT complications developed in 5 (6.6%) patients, of which 4 had fluid collection. Wound complication developed in 3 (8.6%) of 35 patients with fluid collection and in 1 (2.4%) of 41 patients without fluid collection.

Conclusion: Fluid collection demonstrated lower LC rates after wide excision and PORT for STS, but with a reasonable wound complication rate of 8.6% when compared with rates of previous studies ranging from 5-17%. Furthermore, partial coverage of fluid collections in PTVs had worse LC rates, thus recommending complete coverage. Future evaluation with a larger number of cases will be needed for statistical support of our findings.

PO-0768
Evaluation of RT practice for limb soft tissue sarcomas and its impact on prognosis and toxicity
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5 patients, 1 died 3 days after diagnosis. 4 patients had surgery, 3 developed DM and 1 is a long-term survivor. Median OS was 68 days.