efficacy and visual outcomes of a large series of patients with choroidal melanoma (CM) treated with RuBT, and compare the results to those of the preceding protocol in which RuBT was combined with transpupillary thermotherapy (Ru/TTT).

**Material and Methods:** Outcomes of 449 consecutive CM patients with tumour prominence <8 mm and basal diameter <16 mm treated with RuBT from 2004 to 2011 were analysed. 253 (56.2%) were treated according to the current RuBT protocol (from 2008 onwards) with 130 Gy specified at the tumour apex and maximum and minimum doses to the scleral surface of 300 Gy and 1000 Gy, respectively. 196 (43.6%) were treated using the preceding Ru/TTT protocol with either 400 ± 600 Gy to the scleral surface followed by TTT, or 600-800 Gy without TTT for peripheral tumour location. The brachytherapy dose was standardized to a dose rate of 100 Gy per 24 h using a correction factor (2-10% dose correction). Local failure was defined as residual prominence with signs of activity on fluorescein angiography, or regrowth after complete remission.

**Results:** Median follow-up was 40.1 months; 25.9 months for RuBT and 67.5 months for Ru/TTT; hence 3-year results were analysed. Patients treated with RuBT had smaller and less centrally located tumours and better median visual acuity (VA). VA deteriorated more rapidly in Ru/TTT patients; at 1 year the loss of vision relative to the VA before treatment was -0.1 for RuBT patients vs -0.25 for Ru/TTT, while at 3 years the relative VA decline was similar (-0.30 vs. -0.28). Local failure was detected within 3 years in 4.3% of RuBT patients compared to 11.2% of Ru/TTT patients, for 3-year cumulative incidence rates of 6.4% vs 11.2% (p=0.09). Treatment for local failure consisted of repeated RuBT; TTT; or enculectomy. Enculectation was performed in 2.4% of RuBT patients vs. 10.2% of Ru/TTT; of these, 1.6% vs 6.1% were done for recurrence and 0.8 vs 4.1% for complications. Three-year cumulative incidence of distant metastases was 4.8% vs 6.6% for RuBT vs Ru/TTT (p=0.37), and of death 0.5 vs 3.7%.

In univariate analyses, most important risk factors for local recurrences and metastases were tumour prominence, tumour diameter and stage, while in multivariate analysis only tumour diameter remained significant for local recurrence. In view of the short follow-up of RuBT, updated results will be presented.

**Conclusion:** Both protocols for eye-preserving treatment of patients with choroidal melanoma provided excellent rates of local tumour control and eye preservation, with the RuBT protocol confirmed to be best standard of care with 97% eye preservation and significantly longer preservation of visual acuity.
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.

Conclusion: These rare sarcomas have variable clinical presentations. Surgery is the central component for successful treatment but complete resection is not always possible. RT may reduce LR (reduced from 77%, group B, to 53%, group A) and chemotherapy is offered if high risk (inoperable, R2 margins, or DM). We still need to define the optimum management.

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 G-2-3 tumors (79%). Available histologic analyses after surgery retrieved 84% unifocal tumors and free-tumor margins >1 mm in 69% of cases. Radiotherapy (RT) was delivered prior to surgery and margins size.

Receivings <50Gy and in those who had >50 Gy (p<0.001), 7%, 4%, and 13% in the general population, in patients receiving radiation treatment and in patients with fluid collection, 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 and 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 unprecedented 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-metastic patients were included. After evaluation of CT and MR images taken at the time of PORT planning, fluid collection was detected in 46 patients (30.5%). 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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Conclusion: Does fluid collection have an impact on radiotherapy outcomes after excision of soft tissue sarcoma? This study is an unprecedented analysis of fluid collection in relation to radiotherapy outcomes after wide excision of soft tissue sarcoma (STS).