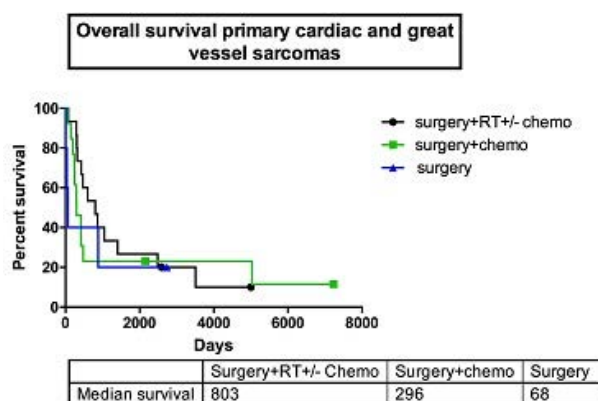


5 patients, 1 died 3 days after diagnosis. 4 patients had surgery, 3 developed DM and 1 is a long-term survivor. Median OS was 68 days.



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 (13%) or after (87%) surgery. Seven patients (2%) had pre- and a 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 relapse rates (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 be 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 relapse 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-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 (30.5%). 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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Purpose or Objective: If radiotherapy (RT) combined with extended resection is part of the standard treatment of high risk extremity soft tissue sarcomas (ESTS), the evidence regarding the optimal target volume of RT ensuring local control (LC) is not very robust. But it is well known that toxicity is directly related to the RT volume and the delivered dose. The development of image-guided radiotherapy and implementation of better target volume conformation could reduce toxicity without compromising outcome. Here we evaluate the definition of RT volume according to clinical, surgical and histological factors.

Material and Methods: Between the 1st January 2008 and the 31st Decembre 2009, 173 patients from eleven centers with ESTS were retrospectively evaluated, all patients having had resection with pre- or post-operative RT. Primary endpoint was to evaluate the target volume and RT dose and their impact on LC and patterns of local relapse (LR). Secondary endpoints were: impact of surgery's quality on LC, patterns of relapse and RT volume. Impact of RT dose on LC and patterns of LR. Impact of histological type on LC and on recurrent pattern. Impact of RT volume on toxicity (CTC V.04).

Results: Median age was 60 years [19-91]. 32% of patients had upper limb and 68% lower limb STS. Median tumor size was 75mm [17-270]. RT was preoperative in 12% and postoperative in 88% of cases. Quality of surgery was R0 in 62%; R0 after second surgery in 11% and R1 in 27% patients. Intraoperative tumor fragmentation rate was 6% in expert centers and 16% in non-expert centers. Most frequent histologic types were liposarcoma (31%) and myxofibrosarcoma (13%). Median dose was 54 Gy [36-70]. Median PTV1 and PTV2 volumes were 864cc [25-5122] and 443cc [20-1613] respectively. LR rate was 11.20% (n=20); 45% within PTV1, 28% in the PTV2, 18% at the edge of the RT volume and 9% outside. 21.4% of patients had a metastatic failure. Regarding toxicity, we observed 19.6% and 15.2% of G1 and G2 fibrosis, 19.6% and 12.5% of G1 and G2 edema, 12.6% and 4.5% G1 and G2 pain, 3.4% and 6.9% of G1 and G2 joint stiffness, 5.2% and 6.9% G1 and G2 neuropathy. Bone fracture occurred in 3.2% of cases. After univariate analysis, intraoperative tumor fragmentation was related to a higher risk of LR (22% vs 8% p=0,004) and distant metastasis (50% vs 17% p= 0,0029). Including scar drainage in the RT field was correlated to a lower LR rate (9% vs 29% p= 0,015). Upper limb location was correlated with higher risk of neuropathy (p=0,049) and lower limb location was correlated with edema (p=0,024). Dose > 60 Gy did not impact on LC but was correlated with pain (p=0,021). No significant correlation with fibrosis could be identified.

Conclusion: As in other studies, the quality of surgery is the most important prognostic factor predicting outcome. Most of LR were within the PTV field translating a correct target volume definition. Toxicity was acceptable. A prospective evaluation is warranted.

Poster: Clinical track: Paediatric tumours

PO-0769

Survival benefit for patients with diffuse intrinsic pontine glioma (DIPG) undergoing re-irradiation

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Purpose or Objective: Radiotherapy remains the cornerstone of treatment for patients with DIPG. Nevertheless, median overall survival of patients initially responding to radiotherapy is poor. The role of chemotherapy as second-line treatment remains elusive. Purpose of this study is to analyze the benefit and toxicity of re-irradiation at the time of disease progression.

Material and Methods: At the time of disease progression 27 children, aged 2 to 16, underwent re-irradiation (10 fractions of 1.8, 2.0 or 3.0 Gy) alone (N=21) or combined with systemic therapy (N=6). At first diagnosis, all patients had symptoms for ≤3 months, ≥2 signs of the neurological triad (cranial nerve deficit, ataxia, long tract signs), characteristic features of DIPG on magnetic resonance imaging or biopsy proven high-grade glioma. An interval of ≥3 months after first-line radiotherapy was required before re-irradiation. A group of 39 patients fulfilling the same diagnostic criteria receiving radiotherapy at primary diagnosis, followed by best supportive care (N=10) or systemic therapy (N=19), were eligible for a matched-cohort analysis.

Results: Median overall survival for patients undergoing re-irradiation was 15.9 months. For a similar median time to first progression (8.1 vs. 7.7 months; P=.22), a significant benefit in median overall survival (15.9 [95% CI 13.0-20.0] vs. 10.3 [95% CI 9.4-12.5] months; P=<.01) was observed in favor of patients undergoing re-irradiation compared to no re-irradiation. The median overall survival benefit of re-irradiation versus no re-irradiation was most pronounced in patients with a longer interval between end-of-radiotherapy and first progression (3-6 months: 11.1 vs. 8.7; P=<.01; 6-12 months: 19.4 vs. 13.8; P=.02). On multivariable analysis corrected for age and systemic therapy, re-irradiation remained prognostic for overall survival (HR 0.43 [0.13-81]; P=<.01). Clinical improvement after re-irradiation was observed in 15/20 (75%) patients. No grade 4 or 5 acute or late toxicity was diagnosed.

Conclusion: The majority of patients with DIPG, responding to first-line radiotherapy, do benefit of re-irradiation. A prospective data collection, supported by the SIOP-E-HGG/DIPG working group, will start for patients fulfilling the criteria of re-irradiation.

PO-0770

Subsequent colorectal adenomas in childhood cancer survivors: a DCOG LATER record linkage study

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