Purpose or Objective: To evaluate local control, enucleation-free survival, toxicity and cost-effectiveness in patients with choroidal melanoma treated with linac-based stereotactic radiosurgery (SRS). GammaKnife® radiosurgery has reported very good results for this melanoma treatment.

Material and Methods: Between 2003-2014, 6 patients with choroidal melanoma were treated at NISA Virgen del Consuelo Hospital in Valencia, Spain. Mean age was 59 years (range 43-79). Three were men and three women. Metastatic disease was ruled out in all cases. Two patients had small tumors, two medium sized lesions and two had large lesions according to Collaborative Ocular Melanoma Study Classification. Total tumor volume was 0.49 cm² (range 0.17-0.93). Three tumors were localized in the right eye. Visual field prior to treatment was normal in 5 cases and one patient presented complete hemianopsia of the affected eye. Central vision was preserved in all cases. The procedure was made under sedation and retrobulbar blockage, the eye muscles were fixed to Leksell G-Frame with silk sutures. Magnetic resonance (MRI) and computed tomography (CT) were used to contour lesion. CTV minimal marginal dose was 30 Gy, encompassed the 80% isodose line in 4 patients and the 60% and 55% isodose lines in the other cases. All were treated with 6 MV linac, one isocenter and cone-collimation. Global cost of this method is around 8,000 € (range 7,000-12,000). It is an ambulatory procedure with a total duration of 3 hours or less.

Results: Median follow-up is 19 months (range 1-69). Follow up includes MRI and ophthalmoscopy every 6 months. Complete response in one patient, partial response in two patients, partial response in two patients, no change in one patient and it’s too early for response evaluation (less than 6 weeks) in the last one. For lens and optic nerve, the dose constraints were 4 and 18 Gy, respectively. Up to date, no patient has local or distance progression. Enucleation has not been necessary in any patients. Five years after treatment one patient presented retinal scarring in irradiated area. Glaucoma start 9 month after SRS in one patient with previous cataract surgery. No other toxicities were observed.

Conclusion: In our experience, linac SRS is effective eye and vision-sparing method to treat patients with a minimally invasive, safe and cost-efficient alternative to brachytherapy and enucleation in choroidal melanoma with high local control rates and low incidence of toxicities.

EP-1396
Radiosurgery/Stereotacticradiotherapy with Cyberknife and immunotherapy in melanoma brain metastases
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Purpose or Objective: The immunotherapy improves survival in patients (pts) with metastatic melanoma, but there is insufficient data on the efficacy in pts with brain metastases. SRS and SRT allow greater local control in pts with melanoma brain metastases, with not significant impact on prognosis. Our analysis evaluated survival and local control in pts treated with SRT/SRS with Cyberknife® system and Immunotherapy.

Material and Methods: From November 2012 to September 2015 we treated 47 pts (26 M and 21 F) with melanoma brain metastases. The median age was 59 years (28-81y). 28 pts received immunotherapy pre (pre-RT), concomitant and post radiation treatment (post-RT). 26 pts received Iplilimumab: 14 pts pre-RT, 5 pts concomitant-RT, 7 pts post-RT; 2 pts received Nivolumab: 1 pt pre-RT and 1 pt concomitant-RT; 11 pts received Pembrolizumab: 3 pts pre-RT, 4 pts concomitant RT, 4 pts post-RT. We treated 91 lesions of average size 13.5 mm (2-36). Based on the number of lesions, size and location, 69 lesions were treated with SRS (10-24Gy), 22 with SRT (18-24Gy/2-3.5 fractions). We evaluated the local response according to RECIST criteria (complete response CR: disappearance of the lesion; partial response PR: at least a 30% decrease in the diameter of lesion; progression disease PD: increase in the diameter of the lesion > 20%; stable disease SD: everyone else). We assessed overall survival, local control (LC) as the sum of CR, PR and SD, and the impact on LC of the association Radiotherapy (RT) and immunotherapy.

Results: 41 pts were evaluable for follow-up (FU). The 6-month survival was 58%. 11 patients died and 11 pts received Whole Brain RT for progression disease. At two months FU, of the 39 pts evaluable (24 treated with RT and immunotherapy), 85% had LC; at four months FU, of 29 pts evaluable (20 treated with RT and immunotherapy), 81% had LC; at six months FU, the 24 pts evaluable (15 treated with RT and Immunotherapy) 100% had LC.

Conclusion: Our analysis seems to confirm the literature data in terms of overall survival. The results showed a good disease local control in pts treated with SRT/SRS and immunotherapy, demonstrating a potential role of immunotherapy in the treatment of melanoma brain metastases. The recruitment of a greater number of pts, a longer follow-up and new prospective studies of combination RT and immunotherapy are needed to demonstrate the immunotherapy role in the treatment of melanoma brain metastases.

EP-1397
Patterns of failure in patients treated with adjuvant radiotherapy post lymphadenectomy for melanoma
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Purpose or Objective: Adjuvant radiotherapy is proven to prevent lymph-node field relapse after therapeutic lymphadenectomy for melanoma, but does not improve overall survival. Risk factors for lymph-node field recurrence include presence of extracapsular extension, number and size of lymph nodes at dissection. This study reports patterns of failure in patients treated with adjuvant radiotherapy post lymphadenectomy for melanoma.

Material and Methods: This retrospective study included all patients who received lymph-node field radiotherapy post lymphadenectomy for melanoma between June 2012 and March 2015. Patients who received radiotherapy were those with high risk of lymph node field recurrence, as per the findings of Burmeister et al in 2012. Patients received radiotherapy to the head & neck (55%), groin (30%) and axilla (15%). All were staged with PET or CT. Both IMRT (50%) and 3D conformal (50%) techniques were used.

Results: 20 patients were treated during this period (see table). Median follow up was 16 months (range 6.7 - 32 months). There were no lymph node field recurrences. Local recurrence rate was 10%. Distant recurrence rate was 35%, all occurring within 4 months from completion of radiotherapy. Distant recurrence rate was 53.8% in patients with extracapsular extension. All patients with local or distant relapse had extracapsular extension. 71% of patients with distant recurrence had PET staging. 8% of patients experienced grade 3 radiotherapy toxicity.
Acute gastro-intestinal toxicities after pre-operative tomotherapy for retroperitoneal liposarcoma

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Purpose or Objective: The standard treatment of high grade soft tissue sarcoma (STS) is surgery followed by adjuvant radiotherapy (RT); chemotherapy (CT) can be an option in selected patients due to reported benefit in terms of disease free survival. The association of RT with CT might increase tissue reactions with the consequent risk of unplanned treatment interruptions resulting in an increased risk of treatment failure. This retrospective study analyze the safety and feasibility, respectively in terms of additional toxicity and compliance, of concurrent chemoradiotherapy (CTRT) in adjuvant treatment of STS.

Purpose or Objective: Surgery is the cornerstone in the management of sarcomas. The aim of this study was to evaluate intensity-modulated radiotherapy (RT) with tomotherapy followed by surgery in terms of acute gastrointestinal (GI) toxicities, especially regarding the high-level of prescribed dose (54 Gy/30 fractions/6weeks).

Material and Methods: From April 2009 to September 2013, 48 patients were included in a prospective multicenter study. Feasibility of tomotherapy, acute toxicities and local control at 3 years were the principal and secondary objectives. Inclusion criteria were operable, biopsy-proven, retroperitoneal liposarcoma. Patients with non-operable tumors validated after multi-disciplinary team evaluation, other histology or metastatic disease were excluded. Clinical Target Volume (CTV) and maims organs at risk (contralateral kidney, duodenum, bowel bag) were systematically delineated with the surgeon. Dose constraints to the bowel bag were defined as V45 Gy≥33% and V30 Gy≥50%. Surgery was planned 4 to 8 weeks after RT. Clinical visits were performed weekly during RT, before surgery, and 2 and 6 months after surgery. Toxicity was recorded according to CTCAE V4.0 scale.

Results: For acute GI toxicity, 46/48 patients were evaluable. All patients completed the radio surgical schedule without dose reduction. Mean age was 62 years (36-82). All patients were OMS2 except one (OMS=3). Mean CTV was 2954 cc (920-4989). Mean small bowel and duodenal volumes were 2725 (1355-4090) and 73 cc (33-113), respectively. Monobloc exeresis was systematically achieved and all patients underwent homolateral nephrectomy. Twenty-nine patients underwent bowel resection, including large bowel (28/29), small bowel (4/29) and duodenum (1/29). Mean weight loss during RT was 5.4 kg (about 8% of mean body weight) and 8.9 kg at the first visit after surgery. At 2 months, grade 3 toxicities included duodenal stenosis (1/46), intestinal fistula (1/46) and enterocolitis (1/46) and grade 4 toxicity included GI fistula (1/46). At 6 months, no GI toxicities were observed. Three patients died within 6 months after surgery, 2 of which were related to treatment: one respiratory disorder 6 days after surgery and 1 duodenal perforation with necrosis and infection 4 months after surgery.

Conclusion: For patients with retroperitoneal liposarcoma, preoperative 54 Gy RT appears feasible. Due to the low rate of severe complications, no statistic correlations with dose in digestive structure were performed.

EP-1399

Safety of concurrent adjuvant radiotherapy and chemotherapy for locally advanced soft tissue sarcoma

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Purpose or Objective: The standard treatment of high grade soft tissue sarcoma (STS) is surgery followed by adjuvant radiotherapy (RT); chemotherapy (CT) can be an option in selected patients due to reported benefit in terms of disease free survival. The association of RT with CT might increase tissue reactions with the consequent risk of unplanned treatment interruptions resulting in an increased risk of treatment failure. This retrospective study analyze the safety and feasibility, respectively in terms of additional toxicity and compliance, of concurrent chemoradiotherapy (CTRT) in adjuvant treatment of STS.

Material and Methods: Data of 84 STS patients treated with surgery and adjuvant RT from June 1994 to November 2014 at the University of Florence, were retrospectively collected. Anthracycline-based CT was performed in high risk patients. Acute and late local toxicity of RT treatment were assessed respectively by Common Terminology Criteria for Adverse Events (CTCAE) 4.0 and RTOG/EORTC criteria for the Late Radiation Toxicity. CT-related hematological Toxicity was assessed by CTCAE 4.0.

Results: Twenty-four (28.6%) patients received CTRT. Mean follow-up was 5.6 years (range 0.4-18.8). At the time of our analysis 8 (9.5%) patients had a local relapse, 17 (19.8%) developed distant metastases, and 14 (16.7%) died of metastatic disease. Local Recurrence Free Survival (LRFS), Distant Relapse Free Survival (DRFS) and Overall Survival (OS) were respectively 83.4%, 70% and 69.5%. Grade ≥3 leucopenia developed in 59 (70.2%) of patients; G3 skin toxicity occurred in 19 (22.6%) cases and determined treatment interruption in 15 (17.9%) patients with a mean treatment...