Material and Methods: The analysis included all the patients treated for gliosarcoma between 1998 and 2014 in seven French academic centres.

Results: Seventy-five patients with a median age of 60 years (range from 23 to 79 years) were treated with a combination of surgery (n=66), radiotherapy (adjunct for 64 patients and exclusive for 8 patients) and temozolomide based chemotherapy (n=58). Median follow-up was 12 months (range from 2 to 71 months). Two-year overall survival (OS) and disease free survival rates were 12% (95% CI: 4-20%) and 2% (95% IC: 0-6%), respectively. The median OS was 13 months. Treatment at recurrence consisted of chemotherapy (n=38) (bevacizumab for 18 patients, resumed temozolomide for 10 patients), salvage surgery (n=8) and radiochemotherapy (n=1). In univariate analysis, younger age, high total dose of radiotherapy, long time to recurrence and treatment at recurrence increased significantly OS. In multivariate analysis, high total dose of radiotherapy (HR = 0.97, p=0.007) and treatment at recurrence (HR=0.28 p<0.001) were favourable prognostic factor of OS.

Conclusion: High dose of radiotherapy and salvage surgery increase OS of gliosarcoma.

Poster: Clinical track: Haematology

PO-0662
The multi-institutional retrospective study of radiation therapy for NK/T-cell lymphoma in Japan


1Cancer Institute Hospital, Radiation Oncology, Tokyo, Japan
2Mie University Hospital, Hematology, Tsu, Japan
3Shimane University Hospital, Hematology, Matsue, Japan
4Juntendo University Hospital, Radiation Oncology, Tokyo, Japan
5Nara Medical School Hospital, Radiation Oncology, Kashihara, Japan
6Kobe University Hospital, Radiation Oncology, Kobe, Japan
7Hyogo Cancer Center, Radiation Oncology, Kobe, Japan
8Toho University Sakurai Hospital, Radiation Oncology, Sakurai, Japan
9Iwata General Hospital, Radiation Oncology, Iwata, Japan
10Nara Medical School Hospital, Radiation Oncology, Nara, Japan
11Cancer Institute Hospital JFCR, Radiation Oncology, Tokyo, Japan

Purpose or Objective: JCOG0211 study demonstrated that the 5-year local control, 5-y OS and 5-y PFS of patients treated with RT-DeVIC were 94%, 92.2 %, respectively. Recurrences were observed in 7 patients (15.2 %), 4 patients (5.5 %) and 3 patients (4.2 %), respectively. Nine patients; five of them were retreated (chemotherapy +/- radiotherapy) and four patients achieved complete remission. Three patients died during follow-up; 2 of them due to malignant lymphoma, one due to breast cancer. Grade 3 dermatitis, mucositis and pneumonitis were observed in 11 patients (15.2 %), 4 patients (5.5 %) and 3 patients (4.2 %), respectively. Two patients experienced grade 3 late toxicities (dyspnea and laryngeal edema), but we judged they were less relevant to the treatment. Laryngeal carcinomas which located in field of radiotherapy were appeared in two patients.

Conclusion: Effectiveness and safety of our treatment protocol with long term follow-up. The multi-institutional retrospective survey after prospective clinical trial is important to review how the results of trial influence on the community standard practice of the treatment for rare lymphoma, and observance of radiation therapy guidance. The extended RT had higher local control rate than small limited RT.

PO-0663
Treatment result of primary thyroid lymphoma; a single institute experience

N. Yoshikawa, T. Shimbo, H. Yoshioka, K. Yoshida, Y. Uesugi, Y. Narumi

1Osaka Medical College, Radiology, Takatsuki, Japan

Purpose or Objective: Primary thyroid lymphoma (PTL) is a relatively rare entity of extra-nodal lymphoma. There was no randomized clinical trial and the optimal treatment is not established. The purpose of this retrospective study is to verify the effectiveness and safety of our treatment protocol with long term follow-up.

Material and Methods: The stage IE - IIE PTL patients treated with combined treatment including radiotherapy and followed up at least three years were eligible for this retrospective study. We used CHOP or CHOP-like regimens with or without rituximab. Chemotherapy was not administered to the patients who were IEA MALToma treated in or after 2007 or have a contraindication to it. Acute and late toxicities were graded by CTCAE v4.0.

Results: Seventy-two PTL patients were analyzed and median follow-up period was 91 months (37 - 238 m). The doses of radiotherapy were 36 - 61.2 Gy (median 41.4Gy). Seven-year overall survival and cause specific survival were 98.6 % and 92.2 %, respectively. Recurrences were observed in 7 patients; five of them were retreated (chemotherapy +/- radiotherapy) and four patients achieved complete remission. Three patients died during follow-up; 2 of them due to malignant lymphoma, one due to breast cancer. Grade 3 dermatitis, mucositis and pneumonitis were observed in 11 patients (15.2 %), 4 patients (5.5 %) and 3 patients (4.2 %), respectively. Two patients experienced grade 3 late toxicities (dyspnea and laryngeal edema), but we judged they were less relevant to the treatment. Laryngeal carcinomas which located in field of radiotherapy were appeared in two patients.

Conclusion: Effectiveness and safety of our treatment protocol were excellent. Because PTL patients are expected to have long term survival, we should optimize our treatment strategy to minimize acute and late toxicities and patients' quality of life.

PO-0664
Outcome of radiotherapy for stage I and II follicular lymphoma in patients staged by 18 FDG PET-CT

L. Brady, S. F. Barling, V. Warbey, N. G. Mikhail1,2

1Gay's and St.Thomas' NHS Foundation Trust, Department of Clinical Oncology, London, United Kingdom
2King's Health Partners, Academic Health Sciences Centre, London, United Kingdom

Objective: The purpose of this study was to determine the outcome of radiotherapy (RT) for stage I and II follicular lymphoma (FL) when assessed by 18F-FDG PET-CT.

Methods: Radiotherapy was delivered after staging with 18F-FDG PET-CT. Patients were staged according to FL-I/II/III according to Ann Arbor staging system. The local control rate was calculated as the proportion of patients with no evidence of disease at the end of follow up.

Results: The median follow-up time was 24 months (range: 3-78). The local control rate was 85% at 5 years. The median overall survival time was 18 months (range: 3-78) with 5-year survival of 50%.
Purpose or Objective: The majority of patients with follicular lymphoma (FL) present with advanced disease and are considered incurable. For patients with localised stage I or contiguous stage II, radiotherapy (RT) may be curative, but a significant proportion will relapse, usually at distant sites. Historical series report progression free survival (PFS) rates at 5 & 10 years post RT of 50-60% and 40-50% respectively. PET-CT using Fluorodeoxyglucose (FDG) is superior to CT for staging of FL, with upstaging reported in 10-60% of patients. PET-CT has recently been recommended as the standard imaging modality for staging of FL. By measuring outcomes in patients who underwent radical RT for stage I/II FL staged by PET-CT, this study aims to test the hypothesis that more accurate staging improves selection for localised RT and consequent patient outcome.

Material and Methods: A retrospective review was undertaken of all patients who underwent radical RT for stage I and II FL (grade 1, 2, 3a) at our institution from 2006-2014 staged by PET-CT. Patients were newly diagnosed and had not received any prior systemic or radiation therapy. Sex, age, PET-CT stage, LDH level, FLIPI score were recorded and whether a bone marrow trephine (BMT) was performed. RT site and dose were documented. Outcomes included relapse within the radiation field, distant relapse and PFS.

Results: Between July 2006 and November 2014, twenty-seven patients received radical involved field RT for stage I or contiguous stage II FL. 11 were male and 16 female. Median age (range) at RT was 59 years (32-84). 11 patients had grade 1 FL, 5 grade 1-2, 7 grade 2 and 5 grade 3a. 23 of 27 (85.2%) had Ann Arbor stage I disease by PET-CT. 23/27 (85.2%) had a BMT prior to treatment. In 3 cases BMT was not performed and in 1 the sample was inadequate. FLIPI score was 0-1 in all cases. The radiation dose was 24Gy/12# or 30.6Gy/17#, with the majority receiving 30.6Gy (23/27, 85.2%).

With a median follow up of 59.6 months (10.6 -104), 23/27 (85.2%) had a progression free survival (PFS) estimate was 90.87% (95% CI 68.2-97.9) and for those with stage 2, 50% (95% CI 6.6-84.2). All patients were alive at completion of the study.

Conclusion: PFS after local RT for stage I/II FL staged by PET-CT appears to be better than for those historically staged by CT. Longer follow up and more patients are needed to confirm our findings, but this study suggests that earlier series from the pre-PET-CT era may have underestimated the efficacy of RT as a curative treatment for truly localised FL.

PO-0665
Compliance with ILROG guidelines in the treatment of extranodal lymphomas; an internal plans review
C. Furlan1, P. Bulian2, M. Michieli1, M. Trovo1, A. Ermacora3, M. Spina4, U. Tirelli2, F. Franchin1

1King’s College, PET Imaging Centre at St Thomas’ Hospital- Division of Imaging Sciences and Biomedical Engineering, London, United Kingdom
2Centro di Riferimento Oncologico, Radiation Oncology, Aviano, Italy
3Centro di Riferimento Oncologico, Hematology, Aviano, Italy
4Azienda Ospedaliera Santa Maria degli Angeli, Hematology, Pordenone, Italy
5Centro di Riferimento Oncologico, Medical Oncology, Aviano, Italy

Purpose or Objective: In 2015 the International Lymphoma Radiation Oncology Group (ILROG) has published guidelines on field and dose for modern radiotherapy in extranodal lymphomas. Involved site radiation therapy (ISRT) is recommended, and for most cases, ISRT results in smaller radiation fields than the involved-field radiation (IFRT) used previously. We analyzed our treatment plans to determine the compliance to ILROG guidelines in extranodal lymphomas.

Material and Methods: This retrospective study is based on the medical records of 62 patients with extranodal lymphoma, who were treated with definitive radiotherapy at our institute between 2011 and 2014. The patients characteristics are shown in Table 1. After evaluating the compliance to ILROG guidelines for each RT plan, Fisher’s exact test was performed to determine factors associated with non-standard treatment including tumor site, histology, and radiation technique (IMRT vs. conventional technique).

We calculated the progression free survival (PFS) by site and histology, and compared our findings to reference data retrieved from the IELSG trials.

Results: Forty-four (71%) patients were treated according to ILROG guidelines, and eighteen did not receive a standard treatment, either due to non standard treatment volume (n=13) or due to radiation dose (n=5). The major deviations from ILROG guidelines were observed in patients affected by pharynx lymphoma and orbital lymphoma. All patients with pharynx lymphoma underwent whole-Waldeyer ring RT instead of ISRT, while all patients with orbital lymphoma underwent partial-orbital RT instead of recommended whole-orbital RT. The majority (61%) of patients managed with non-standard treatment were treated with IMRT technique. PFS by site and histology were similar to those reported in the IELSG trials.

Conclusion: This plans review process resulted in a high compliance to ILROG guidelines (71%). We identified a subset of patients which did not receive a standard treatment, therefore we are revising our treatment policy for pharynx lymphoma and orbital lymphoma.