acute vulvovaginitis. Only two patients presented hematuria in the follow-up, one documented to be radiation-induced, and the second was a superficial tumor relapse.

**Conclusions:** Radiochemotherapy after TURB for invasive bladder cancer in very elderly patients with good general condition, is well tolerated and offers good 3-year overall survival rates. The high rates of locally complete response in these patients, makes RCT as an appropriate therapeutic option. The optimal schedule of concurrent chemotherapy needs to be ascertained.

**PO-0762**

Low-grade gliomas in older adults: treatment patterns and outcomes over the past fifty years

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Purpose/Objective: To identify changes in presentation, treatment and outcomes of older patients with low-grade glioma (LGG) over the past 50 years.

Materials and Methods: Records of adults aged 55 or older upon diagnosis at Mayo Clinic between 1960 and 2011 with WHO grade II LGG were reviewed. They were grouped by those diagnosed before (group I: 1960-1989) and after (group II: 1990-2011) the routine use of post-operative MRI.

Results: Of the 852 adults diagnosed with LGG in our database, 94 were aged 55 or older. Median follow-up was 11.4 years. Pathologic diagnoses included astrocytoma in 55.3%, mixed oligoastrocytoma in 18% and oligodendroglioma in 26.7%. Gross total resection (GTR) was achieved in 9.6%, radical subtotal resection (rSTR) in 6.4%, subtotal resection (STR) in 20.2% and biopsy only in 63.8%. More patients in the modern era received GTR/rSTR (19.7% versus 7.1%), though the difference was not statistically significant. Median progression-free survival (PFS) was 3.0 years, with 5- and 10-year PFS rates of 31% and 10%, respectively. Median, 5- and 10-year overall survival (OS) was 4.1 years, 43% and 17%, respectively. PFS and OS were not statistically significantly different in group II compared with group I. Factors associated with PFS on univariate analysis included sensory/motor symptoms, astrocytoma histology, contrast enhancement and GTR/rSTR. Factors associated with OS on univariate analysis included astrocytoma histology, deep location, contrast enhancement and GTR/rSTR. On multivariate analysis, astrocytoma histology, contrast enhancement and GTR/rSTR remained statistically significantly associated with PFS. On multivariate analysis for OS, astrocytoma histology, deep location, contrast enhancement and GTR/rSTR remained statistically significant.

Conclusions: This retrospective series of older adults with LGG confirms the poor prognosis of patients with these tumors. Despite reports of improving in outcomes for younger patients treated in the modern era, outcomes have not significantly improved for older patients. If medically safe, strong consideration should be given to maximally safe resection followed by adjuvant therapy.

**PO-0763**

Single fraction carbon ion radiotherapy for 80 year old and over patients with stage I peripheral NSCLC

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Purpose/Objective: Single-fraction carbon-ion radiotherapy (CIRT) has been used to treat Stage I non-small cell lung cancer (NSCLC) since the dose escalation phase I/II clinical trial started in April 2003. In this study the data for patients 80 year old and over were analyzed to confirm its safety and efficacy.

Materials and Methods: Major patient selection criteria: 1. Refused surgery or Inoperable. 2. NSCLC was determined by biopsy. 3. Peripheral lung tumors. 4. Tumors were measurable T1 or T2 tumors as classified by the UICC sixth edition. Custom immobilization devices were used. To improve dose distribution, 3 or 4 ports were used with tilt angles between plus and minus 20°, as only horizontal and vertical carbon-ion beams were available. Each port had an even dosage and was irradiated consecutively. The planning CT also required tilting the patients. For the treatment of planning CIRT, the clinical target volume was defined as gross tumor volume plus 10 mm. The planning target volume was based on the clinical target volume plus 5 mm in the cranio-caudal direction. The dose prescription was escalated gradually from 28 Grey Equivalent (GyE) to 50 GyE.

Results: We have treated 218 patients by May 2012. Among them, there were 48 males and 22 females, who were 80 years old and over. The median age was 83 years old (range 83-89). The median observation term was 42.7 months. Biopsies proved 45 adenocarcinomas, 24 squamous cell carcinomas, and one non-small cell carcinoma. There were 39 T1 tumors and 31 T2 tumors. The number of inoperable patients was 50. The median treatment dose was 40 GyE (range 28-50). 3-year and 5-year overall survival rates were 72.4% and 39.7%. 3-year and 5-year local control rates were 88.0% and 85.8%. There was no significant statistical difference (p > 0.05) between the disease free survival rates for T1 and T2 tumors. There were no grade 3 and over adverse effects for the skin and lung during the acute and late phases. The grade 2 acute lung effect was observed in 3 patients whose each prescribed dose was 34, 44, and 48GyE. Only one patient had the grade 2 acute and late skin effects, whose prescribed dose was 40 GyE.

Conclusions: We treated 70 patients, who were 80 years old and over, with single-fraction CIRT. Single-fraction CIRT could be considered safe and efficient treatment options for the elderly with stage I peripheral NSCLC.

**PO-0764**

Octogenarians with early stage NSCLC undergoing SBRT - same outcomes as younger patients?

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Purpose/Objective: To compare outcome and toxicity of octogenarians with early stage NSCLC undergoing SBRT with that of younger patients.

Materials and Methods: From June 2007 to June 2010, 200 consecutive patients with early stage NSCLC were treated with CBCT-guided SBRT. They were divided into two groups, group I; 80 years and over, and group II; 80 years and younger.

Results: The overall survival, progression-free survival and local control rates were the same in group I compared with group II.

Conclusions: Octogenarians with early stage NSCLC undergoing SBRT had the same outcome as younger patients.
Purpose/Objective: The increase in life expectancy leads to an increased number of elderly patients (pts) diagnosed with NSCLC. Octogenarians can be a treatment challenge due to frailty and comorbidity. Stereotactic Body Radiotherapy (SBRT) has become the standard treatment for medical inoperable pts with early stage NSCLC. However, it is unknown if all pts have same benefit of SBRT due to lack of randomized studies. This retrospective single-institution study reports survival and control rates for medical inoperable octogenarians vs. pts <80 years old with early stage NSCLC treated with SBRT.

Materials and Methods: All records of pts treated with SBRT in our institution from 2005 to 2014 were reviewed. The thoracic RT consisted of 45-66 Gy/3F delivered in 9 days. The majority of the tumors were histological or cytological proven NSCLC T1-2N0M0. Pts were divided into two cohorts, age ≥80 and <80. Kaplan-Meier and Cox proportional hazard analyses were used for uni- and multivariable survival analyses, respectively. Overall survival (OS), local failure-specific survival (LFS), and distant recurrence-free survival (DRFS) were compared.

Results: A total of 187 pts were identified. Of these, 50 were ≥80 and 137 were <80. Median follow-up was 31.2 months. Statistically significant (p=0.05) inter-group differences in patient characteristics were observed: Fraction of female population 26% vs 62%, fraction smoking within the last 10 years 38% vs 17%, fraction of pts with stage T1 58% vs 77%, for the groups ≥80 and <80, respectively. No differences in PS, radiation dose, clinical vs. pathological diagnosis of NSCLC, histology, mediastinal staging, or PET scans at time of diagnosis between the two groups were observed (all p>0.05). No difference in comorbidity measured by Charlson Score index was observed. SBRT was generally well tolerated. A log rank test showed a significant difference of OS between patients ≥80 and <80 (p=0.02) e.g. resulting in an OS at 5-year of 38% vs 62% for pts <80 and ≥80 respectively. Kaplan-Meier and Cox regression analyses were performed. The analysis for OS indicated that PS 2+ and age80+ were significant factors and associated with poorer prognosis. Age 80+ was also significant factor and associated with poorer prognosis in the analysis of LFS (table 1).

Conclusions: Within the limitations of this study, octogenarians undergoing SBRT achieved similar DRFS compared to younger pts. The octogenarians had significantly shorter OS and significantly shorter LFS than pts <80. However, SBRT is still a potential curative treatment for octogenarians with early-stage NSCLC not fit for surgery.

Table 1: 

<table>
<thead>
<tr>
<th>Survival</th>
<th>Variable</th>
<th>HR</th>
<th>95% CI</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall survival</td>
<td>Age 80+</td>
<td>2.04</td>
<td>1.26-3.28</td>
<td>0.004</td>
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<tr>
<td></td>
<td>PS 2+</td>
<td>2.00</td>
<td>1.28-3.28</td>
<td>0.003</td>
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<tr>
<td>Local failure-specific survival</td>
<td>Age 80+</td>
<td>2.81</td>
<td>1.29-6.15</td>
<td>0.01</td>
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<td></td>
<td>Female</td>
<td>0.19</td>
<td>0.08-0.90</td>
<td>0.03</td>
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<tr>
<td></td>
<td>T-diameter &lt;3cm</td>
<td>0.46</td>
<td>0.21-0.98</td>
<td>0.04</td>
</tr>
<tr>
<td>Distant recurrence-free survival</td>
<td>T-diameter &lt;3cm</td>
<td>0.38</td>
<td>0.16-0.82</td>
<td>0.03</td>
</tr>
</tbody>
</table>

Poster: Clinical track: Palliation / Supportive care / Patient support

PO-0765

A randomized study with a hyaluronic acid and chondroitin sulfate lotion for radiodermitis in breast cancer patients

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Purpose/Objective: To evaluate the effectiveness of a body emulsion containing 0.25% hyaluronic acid, 0.25% chondroitin sulfate, Aloe vera, carrot oil, vitamin F and vitamin E for preventing and treating skin toxicity in breast cancer patients (BCP) undergoing radiotherapy (RT).

Materials and Methods: A randomized, open-label, controlled single-center study was made involving 60 BCP undergoing RT, and a historical series of 30 controls. The 60 patients were divided into two groups of 30 subjects each (prevention group: emulsion use starting 2 weeks before radiotherapy; and treatment group: emulsion use starting upon appearance of skin problems). The two groups were compared with a historical series of 30 controls who received no specific dermatological treatment.

Results: A total of 90 patients were included, with a mean age of 60.75 years (SD 9.6). Significant differences (p<0.0001) were observed among the 3 groups in terms of the development of dermal toxicity based on the RTOG/EORTC criteria. The controls accumulated a larger number of dermal toxicity manifestations (184 vs 103 in the treatment group and 80 in the prevention group). Time to appearance of skin toxicity after starting radiotherapy was significantly longer in the prevention group than in the control series (51.72 vs. 42.23 days, respectively; p=0.01). 4 patients presented mild allergic skin reactions resolved with suppression of the emulsion. The product characteristics were very positively rated by the patients. The percentage of positive responses (quite satisfied/very satisfied) in reference to general satisfaction, rapid absorption, more hydrated and soft skin, easy application, symptoms improvement and rapidity of symptom relief being 97.05%, 97.04%, 96.75%, 96.73%, 96.45% and 94.97%, respectively.

Conclusions: The body emulsion with hyaluronic acid and chondroitin sulfate is effective both in delaying the...