

taller risk to develop a cancer. The elderly patients, because of the presence of concomitant pathologies, they set to the clinician particular problems and limitations in the therapeutic planning. Several groups have reported the value of combination of conservative surgery and radiochemotherapy or radical radiotherapy alone in patients affected by bladder cancer. In this study we have retrospectively analyzed the prognostic factors influencing survival and relapse free-survival after radiotherapy following transurethral resection (TURB) for bladder cancer.

**Material and Methods:** Between May 2013 and December 2014, 33 patients with bladder cancer have been treated at the Operative Unity of Radiotherapy and Radiobiology, Hospital of Catanzaro. Of these, 19 patients were treated with radiotherapy alone (RT) and nine with platin based radio-chemotherapy (RCT) after TURB. Overall survival (OS) and Relapse-Free Survival (RFS) were analyzed with the Kaplan and Meyer methods. Comparisons were made using the log-rank test. In the analysis, we proposed the following prognostic factors as affecting the development of relapse after initial treatment: Univariate analysis was performed for age, grade, R-status after initial TURB, T-category relevant to the endpoints initial response, survival and bladder preservation.

**Results:** Median age was 78 years (range 66-90 years), while the median follow-up is 15 months (range 5-42 months). All patients were treated with three-dimensional conformal therapy (3D-CRT). The total dose of radiotherapy ranged 5040 cGy to 6000 cGy. Complete remissions were achieved at 57% after RT and TURB. Toxicity was acceptable. Further significant prognostic factors were pT-category and R-status. For all patients survival was 31% after 2 years and 25% at 4 years, while the relapse-free survival rates were 19% and 15% at 2 and 4 years, respectively. In the univariate analysis the only significant factor for survival and relapse-free survival and bladder preservation was the R-status after initial TURB

**Conclusion:** In conclusion, treatment of bladder cancer by TURB and RT alone is an alternative to primary cystectomy, for the elderly patients. Initial TURB is recommended to be as radical as possible.

#### EP-1446

**Multifraction radiotherapy for painful bone metastases in elderly patients: 20 Gy versus 8 Gy**  
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**Purpose or Objective:** to compare 2 multifraction radiotherapy (RT)schedules in the palliation of painful bone metastases in elderly patients, assessed at baseline with the Cumulative Illness Rating Scale for Geriatrics (CIRS-G).

**Material and Methods:** 132 elderly patients were analyzed. Seventy-seven patients received a single 8Gy in single fraction and 55 received 20 Gy in 5 fractions. The choice of the treatment schedule was related to comorbidity, disability, target size and compliance. Pain intensity was measured with Numeral Rating Scale (NRS: 0 = no pain; 10 = high pain). Complete response was defined a pain reduction > 3 of three points, partial response as a pain reduction  $\geq 2$  (2  $\leq$  pain reduction  $\leq 3$ ), no response was defined by pain score < 2. Pain evaluation was recorded at baseline and at 1-4-8 weeks after completing RT.

**Results:** overall response: 90.3% in 8 Gy arm (49.8% complete and 40.5% partial), 94.6% in 20 Gy arm (44.6% complete and 50%partial). No high grade toxicity were reported. The relief of pain was attained faster with single fraction (p-value ~ 0.2). We observed maximum response of pain control after 8 weeks and no significant differences were noted between

two groups. The re-treatment rate was 17.6% vs 11.1% respectively.

**Conclusion:** no significant differences between the two arms in terms of pain response, pain control and toxicity. Our experience showed that not influenced by age, but in the elderly, life expectancy, comorbidities evaluated with the CIRS-G, and compliance, are crucial in selecting of shorter treatment.

#### EP-1447

**Lung stereotactic body radiation for oligometastasis treatment in the elderly**

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**Purpose or Objective:** To evaluate stereotactic body radiation therapy (SBRT) for oligometastatic lung tumors in patients 75 years old or older.

**Material and Methods:** Between 2002 and 2015, 24 elderly patients with 34 lung metastases were treated using SBRT at our institution. SBRT procedure involved: Slow-scan computed tomography (CT) simulation with immobilization devices, contouring the target volume in 3 sets of CTs, superimposing the volumes in the planning system to represent the internal target volume and dose calculation using heterogeneity correction. Radiation delivery with multiple static planar or non-coplanar beams and arc therapy assured conformal dose distribution and steep fall-off of the radiation. The prescribed dose was 3 fractions of 15 Gy each (90%) given in 6-10 days or a single 30-Gy fraction (10%), with at least 95 % of the ITV covered by the 95% isodose line. Dosimetric constraints were set for surrounding organs at risk. Repeated cone-beam CT were used to verify daily positioning. Toxicity and radiologic response were assessed in follow-up, using standardized criteria (RTOG and RECIST) and analyzed retrospectively. Survival rates and toxicities were calculated by the Kaplan-Meier method.

**Results:** Median patient age was 79 years (75-85). The origin of the metastases was: non-small cell lung cancer (53 %), colorectal adenocarcinoma (24 %), urotelial tumors (8.5 %), thyroid carcinoma (8.5 %), endometrial adenocarcinoma (3%) and parotid tumor (3%). All patients had good performance status at the moment of treatment (ECOG PS 0-1). Fifty-six percent of all patients also received systemic treatment before or after SBRT. Mean tumor volume was 10.7 cm<sup>3</sup> (0.5-106). The only acute toxicity reported was rib pain, grade 2, in 1 patient. No grade > 3 acute or any chronic toxicities were identified. The median follow-up was 11 months (1-60). The 6, 12 and 18 month overall survivals were 97, 88 and 85 %. Local control in the irradiated volume is 97 %, the only failure occurring in a patient who also had distal progression from colon adenocarcinoma.

**Conclusion:** SBRT is an excellent treatment option for lung oligometastasis in elderly patients. Our encouraging results are in line with those reported in recent literature for younger patients.

#### EP-1448

**Outcomes and tolerance of larynx preservation treatment in the older population**

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**Purpose or Objective:** Some recent data has questioned the impact of larynx preservation strategy on overall survival. The median age of patients in most major larynx preservation trials was 55-60 years with little representation of the older age group. The aim of this study is to review the tolerance and outcomes of larynx preservation treatment in the older population ( $\geq 65$ ).