

PTVadapt was generated by adding a margin of 5 mm to the residual tumour visible on the intermediate MRI images (GTVadapt). A simultaneous integrated boost of 3.0 Gy/fr was delivered to PTVadapt on the last 6 frs of RT until a total dose of 45.6 Gy in 18 frs.

Results: From September 2009 to September 2015, 56 pts completed the preoperative treatment. Toxicity. No G4 toxicity occurred. G3 toxicity was only gastrointestinal: diarrhoea in 9/56 pts (16%), and proctitis in 3/56 (5%). Diarrhoea started before the adaptive RT phase in all the cases. Treatment feasibility. Two pts interrupted radiotherapy after 7 and 13 fractions, respectively, the remaining pts (54/56=96%) completed the treatment; the median duration of RT was 25 days (22-36 days). 47/56 pts (84%) and 45/56 pts (80%) received the full dose of oxaliplatin and 5-FU, respectively: 18% of pts received moderately reduced doses (60%-90%), and only two pts (2%) received less than 60% of the planned dose. Responses. Two pts achieved clinical complete response (cCR) and refused surgery, 1 pt was lost, 1 pt had early distant progression. Fifty-two pts underwent surgery (49 R0, 3 R1). Fifteen pts (29%) had pathological complete response (pCR); 24/52 (46%) had Tumor Regression Grade 3 response: 14/52 (27%) and 6/52 (12%) had 0%, and 6 -10% residual viable cells, respectively. Regarding the two patients with cCR who refused surgery, 1 pt is still in cCR after 69 months, 1 pt had local relapse and underwent transanal resection 1 year after the preoperative treatment.

Conclusion: This study confirms that adaptive Radiotherapy with Tomotherapy concomitant with oxaliplatin based chemotherapy in the preoperative treatment of rectal cancer is feasible, has an acceptable G3 toxicity rate and a very encouraging tumour response rate. A further dose escalation to the PTVadapt could be feasible and could increase the pCR and/or cCR rates.

EP-1301

Neoadjuvant treatment intensification in cT4NXM0 rectal cancer: long-term outcome analysis.

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Purpose or Objective: To evaluate the contribution of components for intense multimodal local treatment to the most adverse loco-regional staging scenario of M0 rectal cancer.

Material and Methods: From 1/00 to 12/13, 95 cT4NXM0 patients were treated with radical intent. 54 completed preoperative intensified chemo-radiation (all had post-resection intraoperative electron pelvic boost, IOERT). Adjuvant systemic chemotherapy was recommended considering individualized risk features. Incomplete and complete pre and intra-operative treatment cohorts were comparable in characteristics: male (44/55%); age >70 (44/33%); PS 0 (46/62%); inferior segment (42/41%); grade 2 (67/62%); cN+ (75/83%).

Results: With a median follow-up time of 62 months overall, disease-free (DFS) and loco-regional relapse-free survival were superior in the cohort of complete intensification (75% vs 51%, p=0.009; 67% vs 54%, p=0.03; 77% vs 71%, p=0.01), respectively. IOERT significantly improved presacral control rates. Multivariate analysis indicated that uninvolved surgical margin and intense tumour regression grade assessed response, were protective for DFS.

Conclusion: Multimodal preoperative approach contributed to remarkable cancer-control outcomes and survival in cT4M0

rectal patients, if components of therapy are feasible to be maximized (including free surgical margins) and an intense pathological disease response is described.

EP-1302

The utility of Squamous Cell Carcinoma SCCAg as a marker for treatment response or relapse

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Purpose or Objective: The utility of SCCAg as a marker for treatment response or relapse is unknown in anal cancer.

Material and Methods: This is a retrospective analysis of 28 patients in whom SCCAg serum level was increased prior to treatment (mean 6,4 ng/ml, range 1,6-19,6 ng/ml). In all patients, measurement of SCCAg was performed at baseline, after completion of chemoradiation and at each visit during follow-up (median 35 months, range 7-81). All patients were treated radically.

Results: In 27 (96%) patients SCCAg level decreased to normal level after treatment. One remaining patient had persistent unresectable tumor confirmed by pathology and persistent high SCCAg level. Only one of 27 patients with normalization of SCCAg after chemoradiation had persistent ulceration in the anal canal and persistent enlarged inguinal lymph node. This patient underwent abdominoperineal resection with inguinal lymphadenectomy. On pathological examination only a few cancer cells were found in the inguinal nodes and the primary tumour site was free of cancer. In six patients, increase of SCCAg was observed during follow-up. In one of these 6 patients, locoregional recurrence was also detected clinically at the same time. In 4 patients, the diagnostic examinations performed because of elevated SCCAg revealed locoregional recurrence (n=2) or distant metastases (n=2). In one remaining patient the diagnostic examinations were negative; distant metastases were detected 5 months thereafter. The remaining 20 patients had both: sustained clinical complete regression and normal SCCAg level.

Conclusion: This study suggests utility of SCCAg in the monitoring of response to chemoradiation and in the detection of recurrence

EP-1303

Radiotherapy dose-escalation in rectal cancer: preliminary results of a pooled analysis.

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Purpose or Objective: Preoperative radiotherapy (RT), alone or in combination with chemotherapy (CT) is the standard of care in patients (pts) with locally advanced rectal cancer (LARC). Nevertheless in those tumors in which the down-sizing and down-staging are necessary, (cT3 MRF - / + N0 of lower rectum or cT3-4 MRF + / N0-2) preoperative chemoradiotherapy (CT-RT) is recommended. There is a correlation between RT dose and response and the tumor regression grade (TRG) represents an independent prognostic factor. The aim of the study is to analyze the role of RT dose intensification in the preoperative treatment of LARC in terms of feasibility, toxicity and pathological response grade.

Material and Methods: We have retrospectively analyzed 69 pts with histological diagnosis of LARC (stage II-III) treated in five Italian Radiotherapy centres. The treatment programme included: intensity-modulated radiotherapy (IMRT) delivered