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%, 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 cT4NXMO 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 cT4NXMO 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%); inferior segment (42/41%); 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 neoadjuvant approach contributed to remarkable cancer-control outcomes and survival in cT4MO 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 unresceivable 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 enlarger 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 - / + ND of lower rectum or cT3-4 MRF + / ND-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...
to total mesorectum and pelvic lymphatic drainage with simultaneous integrated boost (SIB) to the tumor bed and adjacent mesorectum. Fluoropirimidine-based CT was administered. The acute toxicity was evaluated according to CTCAE 4.0 scale.

Results: Pts characteristics: median age 63.5yy (range 29-84), median tumor distance-IAS 50 mm (range 0-100), median tumor size 50 mm (range 25-120), MRF involvement 24 pts, Stage IIA 7 pts - III 62 pts. All of the pts completed the RT; 45 Gy were delivered to total mesorectum and lymphatic drainage with median SIB dose of 55 Gy (range 52.5-57.5). Forty-nine (71%) pts received concomitant CT with capecitabine alone and 17 (25%) capecitabine plus oxaliplatin. Globally, 16/69 (23%) pts did not complete CT for haematological (5) or, gastrointestinal toxicities (5) and other causes (6). Fourteen (20%), 33 (48%) and 23 (33%) pts experienced grade 1-2 haematological, gastrointestinal and genitourinary toxicity, respectively. Two out of 69 (3%) pts developed grade 3 haematological toxicity and 9/69 (13%) grade 3 gastrointestinal toxicity. Forty-three pts underwent surgery (LAR 28, APR 10, local excision 5 pts) but definitive histology is not yet available in 7 pts. Twenty-six pts are waiting for surgery. The tumor downstaging was documented in 29/36 (80.5%) pts. Forty-four rate (16/36) of surgical cases achieved pathologic complete response.

Conclusion: Despite the limitations related to the heterogeneity of the treatment delivery (SIB dose and concomitant CT), the RT dose-escalation in the preoperative treatment regimen after neoadjuvant CTX are the standard of care in our institutions.

EP-1305 Impact of time from neoadjuvant treatment and surgery in rectal cancer: a multiinstitutional report A. Ballestrero1, A. Bacigalupo1, I. Chiola1, G. Blandino1, G. Lamanna1, S. Vagge1, S. Scabini2, E. Romairone2, R. Murialdo1, A. Ballestrero1, R. Corvò1 1IRCCS AOU San Martino-IST, Radiation Oncology, Genoa, Italy 2IRCCS AOU San Martino-IST, Surgery Department, Genoa, Italy Purpose or Objective: The aim of the study was to analyze if time from neo-adjuvant chemoradiotherapy (CTRT) to radical surgery influences oncologic outcomes in locally advanced rectal cancer.

Material and Methods: We performed a retrospective analysis of 132 consecutive patients with rectal cancer treated at our Institute from March 2006 to March 2013 who underwent to neoadjuvant therapy followed by radical resection. Of these, 12 patients were excluded as lost at follow up, 3 patients for peritoneal carcinosis detection at surgery time and 3 patients refused surgery after neoadjuvant treatment. The remaining patients were analyzed and divided into two groups according to time to surgery (group A ≤ 8 weeks and group B > 8 weeks) after completion of CTR.

Results: A total of 114 patients underwent total mesorectal excision (TME) after neoadjuvant treatment for stage II and III rectal cancer between 0 and 15 cm from anal verge. There were 51 (45%) patients in group A (interval ≤ 8 weeks) and 63 (55%) in group B (interval > 8 weeks). Median time from chemo-radiotherapy and surgery was 7 weeks (range 1-8) and 12 weeks (range 9-17), respectively, in group A and B. In group B there was a major number of patients with no involvement of circumferential resection margin (CRM), 60 vs 48, and a higher number of major pathologic response (pT0-pT1), 19 vs 9. Disease free survival (DFS) at 5 years was 85.7% vs 73.9% and overall survival (OS) at 5 years was 83.7% vs 92% in group A vs group B.

Conclusion: In our analysis we did not reach statistical significance difference as regards DFS and OS in the two groups of patients; however we observed a favorable trend in the group of patients that underwent to surgery after 8 weeks from neoadjuvant treatment in terms of pathologic response and free radial margin.