	1st line (n = 100)		Total (n = 133)
	Baseline	Score variation	Score variation
Functional scale			
Social functioning	80.4±23.8	−7.9±29.1	−6.3±28.9
Role functioning	77.8±28.0	−5.6±31.6	−4.7±29.4
Physical functioning	84.9±16.5	−4.2±18.1	−3.8±18.5
Cognitive functioning	86.5±19.8	−1±22.5	−0.8±20.4
Emotional functioning	74.9±22.2	+1±26.5	+1.5±25.5
Symptom scale			
Insomnia	26.5±32.6	−6.1±30.3	−4.8±30.3
Constipation	20.3±29.5	−2.4±37.7	−3.4±34.8
Appetite loss	18.6±26.3	0±34.4	−2.3±33.3
Pain	16.7±2.5	−1.3±30.9	−0.6±31.1
Fatigue	31.2±25.1	2±25.9	+1.3±25.7
Diarrhea	16.5±24.5	2±29.7	+2.3±30.0
Nausea and vomiting	9.1±20.8	2.4±26.3	+3±23.8
Dyspnea	13.1±22.9	3.1±24.1	+4.6±23.8
Financial difficulties	8.2±20.9	0.7±20.3	+0.5±20.7
Global health status/QoL	**66±20.4**	**−2.5±25.6**	**−1.6±24.6**

6113 POSTER

Efficacy and Safety at 12 Months of 1st Line Bevacizumab (Bv) Plus Chemotherapy (CT) in Elderly Patients (Pt) With Metastatic Colorectal Cancer (mCRC) in Daily Clinical Practice − the CONCERT French Observational Cohort Study

J. Bennouna[1], J.M. Phelip[2], T. André[3], B. Asselain[4], H. Senellart[1], O. Morsli[5], B. Commenges[5], M. Ducreux[6]. *[1]Centre René Gauducheau, Medical Oncology, Saint Herblain, France; [2]CHU de Saint Etienne, Medical Oncology, Saint Etienne, France; [3]Hôpital Pitié Salpêtrière, Medical Oncology, Paris, France; [4]Institut Curie, Biostatistics, Paris, France; [5]Laboratoires Roche, Oncology, Paris, France; [6]Institut Gustave Roussy, Digestive Oncology, Villejuif, France*

Background: There are limited data on treatment outcomes in the growing population of elderly patients with mCRC. Elderly patients are often underrepresented in randomized oncology clinical trials. We investigated the efficacy and safety of 1st line Bv combined with various CT in elderly patients subgroups (⩾70 yrs and ⩾75 yrs) with mCRC in the CONCERT cohort study.
Patients and Methods: This prospective, multicenter, non-interventional study assessed pts with mCRC initiating a treatment with Bv and CT (all lines) in daily medical practice in France followed-up for 36 months. We analyzed patients' demographics, treatment patterns, safety, progression free survival (PFS), overall survival (OS) in three subgroups: <70 yrs, ⩾70 yrs and ⩾75 yrs.
Results: Of the 515 patients treated in 1st line in the CONCERT study, 328 pts were ⩾70 yrs (including 91 pts ⩾75 yrs). At baseline, 14.3% of pts in the ⩾75 yrs group had poor ECOG PS (⩾2) vs. 7.4% in the ⩾70 yrs; 70.3% pts ⩾75 yrs vs. 52.1% in the <70 yrs group. Co-morbidities were reported in 69.0% of pts ⩾70 yrs; 70.3% pts ⩾75 yrs vs. 52.1% in the <70 yrs group. Median PFS (months) was 11.4, 95% CI [10.0; 12.3] <70 yrs group; 10.0, 95% CI [8.9; 11.8] ⩾70 yrs group and 9.5, 95% CI [7.9; 11.3]) ⩾75 yrs group. Median OS was not reached in the 3 subgroups. The incidence of Bv-related adverse events (AEs) was 56.3% in the ⩾75 yrs group, 53.9% in the ⩾70 yrs group and 52.8% in the <70 yrs group.
Incidence of main Bv-targeted AEs per age group is shown in the table.

	<70 yrs (n = 299)	⩾70 yrs (n = 178)	⩾75 yrs (n = 87)
Related AEs	52.8%	53.9%	56.3%
Grade 3/4 AEs	8.7%	11.2%	11.5%
Targeted AEs (all grades)	51.2%	52.2%	56.3%
Bleeding	25.1%	19.7%	20.7%
Proteinuria	15.1%	16.9%	21.8%
Hypertension	13.4%	16.9%	20.7%
Neutropenia	9.7%	12.4%	13.8%
Venous thromboembolic events	3.3%	6.2%	9.2%
Wound healing disorder	3.3%	2.8%	3.4%
Fistula	2.3%	2.8%	2.3%

Hypertension, proteinuria, venous thromboembolic events and neutropenia were more common in older than in younger patients. No treatment-related death was reported across all age groups at 12 months.
Conclusion: Results of this prospective cohort study suggest that the efficacy of 1st line treatment with Bv and CT is independent of age and is tolerable in elderly patients with mCRC.

6114 POSTER

Clinical Outcomes of Bevacizumab (BV) + XELOX Combination for the First-line Treatment of Patients (pts) With Advanced Cancer of the Colon or Rectum (ACRC) − Preliminary Results of the OBELIX Study

D. Pastorelli[1], T. Latiano[2], L. Antonuzzo[3], I. Pavese[4], M. Aieta[5], R. Algeri[6], D. Azzarello[7], A. Bertolini[8], F. Di Fabio[9], F. Di Costanzo[3]. *[1]Istituto Oncologico Veneto, Medical Oncology, Padova, Italy; [2]Casa Sollievo della Sofferenza, Medical Oncology, San Giovanni Rotondo, Italy; [3]Ospedale Careggi, Medical Oncology, Firenze, Italy; [4]Ospedale Fatebenefratelli, Medical Oncology, Roma, Italy; [5]CROB, Medical Oncology, Rionero, Italy; [6]Ospedale della Misericordia, Medical Oncology, Grosseto, Italy; [7]Ospedale Bianchi Melacrino Morelli, Medical Oncology, Reggio Calabria, Italy; [8]Ospedale della Valtellina e della Valchiavenna, Medical Oncology, Sondrio, Italy; [9]Policlinico S.Orsola-Malpighi, Medical Oncology, Bologna, Italy*

Background: BV, an anti-vascular endothelial growth factor antibody, when combined with other chemotherapeutic drugs, prolongs OS and PFS in ACRC patients. Several phase IV and observational studies provide information on the clinical outcome of the BV-treated pts in large cohorts. We conducted a multicentric, open-label, single arm, non-comparative study to confirm these results in a general Italian population of patients with ACRC.
Materials and Methods: Previously untreated pts with histologically confirmed ACRC receiving XELOX (Capecitabine 1000 mg/m^2 bid for 14 days + Oxaliplatin 130 mg/m^2 d1, q3w) for 8 courses + BV (7.5 mg/kg, d1, q3w) until disease progression, death, or unacceptable toxicities were enrolled. The primary end-point was progression free survival (PFS). Secondary were safety, RR, OS, percentage of R0 resectability and QoL of patients.
Results: 205 assessable patients were enrolled between Feb 2008 and Nov 2009 (male 56%; median age 64 yrs range 34−80). All of pts resulted with an ECOG PS 0−1. 104 pts (51%) had metastases confined in 1 site (41% liver only, 10% lung only). Pts received 7 courses of XELOX (range 1−13) and 8 courses of BV (range 1−34). Median PFS was 10.26 months (95% CI 8.79–11.21) and median OS reached 21.31 months (95% CI 19.93–not reached); best ORR was 43% with a clinical benefit of 73% and a median duration of response.of 9.8 months (range 7.9–10.8). 26 pts (13%) underwent liver surgery of whom 12% had a R0/R1 resection. 102 pts (49.8%) experienced a G3−4 adverse events.
Conclusion: OBELIX study shows efficacy data of Bevacizumab administered in first line ACRC in the Italian clinical practice consistent with those observed in prospective randomized clinical trials and other large observational studies.

6115 POSTER

Modelling Tumour Kinetics Including Early Response, Tumour Nadir and Progression During First-line Chemotherapy of Metastatic Colorectal Cancer (mCRC)

C. Giessen[1], V. Heinemann[1], U. Mansmann[2], R.P. Laubender[2]. *[1]Department of Medical Oncology, Department of Medical Oncology Klinikum Grosshadern University of Munich Germany, Munich, Germany; [2]Institute of Medical Informatics Biometry and Epidemiology (IBE), Medical Faculty University of Munich Germany, Munich, Germany*

Background: Recently, Piesseveaux et al. (Ann. Oncol 2009 20(8): 1375–1382) proposed to use a relative early decrease of tumour size of 20% in first-line therapy for mCRC as a predictor for clinically relevant outcomes (TTP and OS). This method is based on heuristics and not on theoretical considerations. In the present investigation, we deloped a model with the ability to predict individual tumour size kinetics.
Material and Methods: Based on the data of two randomized trials, the FIRE-1 (n = 479) and the CIOX (n = 185) study, we developed a mathematical model which allowed to formulate non-linear U-shaped individual relationships between time and tumour size. This model provides a simple method to capture tumour load at baseline and its decrease to evaluate their impact on TTP and OS by Cox proportional hazard regression. This formal approach allows deriving prediction rules and helps to define a practical way to apply them to patients: how to schedule early

measurements of tumour load, how to calculate a prognostic index from a few individual measurements.
Results: The proposed model shows characteristic non-linear patterns in tumour kinetics over time. It allows to quantify the individual tumour size kinetics based on baseline measurement and one or more time points of response evaluation. Specifically, the model allows predicting the nadir of tumour size reduction for individual patients. In contrast to a previous report by Piesseveaux et al. our model demonstrates statistically significant correlations of both, baseline and response parameters, with TTP and OS.
Conclusions: It is possible to set the findings of Piesseveaux et al in a general formal framework which allows formulating more predictive rules for different clinical outcomes based on early tumour kinetics for first-line patients with mCRC. However, in times of sequential chemotherapies a more elaborate data acquisition is needed especially with regard to second- or even third-line treatment. Further validation of mCRC studies with regard to the proposed model is planned.

6116 POSTER

Trends in Incidence, Treatment and Survival of Stage II T4 Colon Cancer Patients

B. Koebrugge[1], L.N. van Steenbergen[2], D.J. Lips[3], V.E.P.P. Lemmens[2], J.C. van der Linden[4], J.F.M. Pruijt[5], J.H.W. de Wilt[6], G.J. Liefers[1], C.J.H. van de Velde[1], K. Bosscha[3]. *[1]Leiden University Medical Center, Surgery, Leiden, The Netherlands; [2]Eindhoven Cancer Registry, IKZ, Eindhoven, The Netherlands; [3]Jeroen Bosch Hospital, Surgery, 's Hertogenbosch, The Netherlands; [4]Jeroen Bosch Hospital, Pathology, 's Hergtonbosch, The Netherlands; [5]Jeroen Bosch Hospital, Oncology, 's Hergtonbosch, The Netherlands; [6]University Medical Center Nijmegen, Surgery, Nijmegen, The Netherlands*

Background: Stage II T4 colon cancer patients are considered at high risk for recurrent or metastatic disease. Therefore, adjuvant chemotherapy (CT) should be considered, according to the Dutch clinical practice guideline.
Methods: All patients with stage II T4 colon cancer diagnosed in the Netherlands between 2000–2009 were included (n = 3065). Trends in the proportion of stage II patients with a T4 lesion over time was examined, as well as patient characteristics, adjuvant CT administration and number of examined lymph nodes. Furthermore, crude and multivariate survival analyses were performed.
Results: *Incidence*: The proportion of stage II colon cancer patients with a T4 lesion increased over time from 12% in 2000 to 14% in 2009 ($p = 0.012$), with large differences between geographic regions, ranging from 9% to 17% ($p < 0.0001$). T4 tumours were diagnosed more often in female than in male patients ($p < 0.0001$).
Treatment: Adjuvant CT was administered to 18% of T4 patients; 31% of those aged <75 years and 4% aged ⩾75 years. The proportion of T4 patients <75 years treated with adjuvant CT increased from 14% in 2000 to 42% in 2009, while for those aged ⩾75 years it increased from 1% to 10%. Besides, there was a large geographic variation in the proportion of T4 patients aged <75 years treated with adjuvant CT, ranging from 18% to 45% ($p < 0.0001$).
The proportion of T4 patients with ⩾10LNs examined increased from 28% in 2000 to 76% in 2009 ($p < 0.0001$).
Survival: Crude 5-year survival of T4 patients <75 years receiving adjuvant chemotherapy was 71%, compared to 56% for T4 patients not receiving adjuvant chemotherapy ($p < 0.0001$), while for patients aged ⩾75 this was 38% vs. 33% respectively ($p = 0.0124$).
Multivariable survival analysis showed that administration of adjuvant CT and male gender were positive prognostic factors for survival in T4 patients, in contrast to older age (⩾75 years) and <10LNs examined, with variation between geographic regions.
Conclusion: Adjuvant chemotherapy administration in colon cancer patients with a T4 lesion increased over time, but still only a minority of T4 patients received adjuvant chemotherapy. Adjuvant chemotherapy administration is an independent positive prognostic factor for survival in both age groups, which might be caused by selection of the fitter patients without comorbidity, which need to be further investigated. However, the effect of adjuvant chemotherapy remained after including comorbidity to the model in a subset of patients.
More attention should be given to the treatment of high risk stage II T4 patients.

6117 POSTER

Use of Adjuvant Chemotherapy in High-risk Stage II Colonic Cancer Patients in the Netherlands 2000–2009

B. Koebrugge[1], L.N. van Steenbergen[2], D.J. Lips[3], V.E.P.P. Lemmens[2], J.C. van der Linden[4], J.F.M. Pruijt[5], M.F. Ernst[3], G.J. Liefers[1], C.J.H. van de Velde[1], K. Bosscha[3]. *[1]Leiden University Medical Center, Surgery, Leiden, The Netherlands; [2]Eindhoven Cancer Registry, IKZ, Eindhoven, The Netherlands; [3]Jeroen Bosch Hospital, Surgery, 's Hertogenbosch, The Netherlands; [4]Jeroen Bosch Hospital, Pathology, 's Hertogenbosch, The Netherlands; [5]Jeroen Bosch Hospital, Oncology, 's Hertogenbosch, The Netherlands*

Background: A subgroup of stage II colon cancer patients are considered at high-risk for recurrent disease based on tumour obstruction or perforation, T4 lesion, <10 lymph nodes (<10LNs) examined, lymphangio-invasion or a poorly differentiated tumour. According to Dutch clinical guidelines these patients should be considered as comparable to stage III and therefore, adjuvant chemotherapy should be considered.
Methods: All patients diagnosed with primary colon cancer stage II from 2000 to 2009 in the Netherlands Cancer Registry were included (N = 23,124). The proportion of high-risk patients(based on T4 or <10LNs) receiving adjuvant chemotherapy(CT) was determined. Determinants of adjuvant CT administration and their impact on survival were determined. Variation between regions in adjuvant CT proportion was analyzed.
Results: In the period 2000–2009, 6% stage II colon cancer patients received adjuvant CT.
Patients aged ⩾75 years received adjuvant CT very rarely, (11% vs. 1%; $p < 0.0001$), while patients with a T4 lesion, <10LNs and patients diagnosed in a more recent period, received adjuvant CT more often. Furthermore, there was a large variation in adjuvant CT administration between geographic regions. Adjuvant CT administration increased in all (sub)groups of patients after introducing adjuvant CT for high-risk stage II colon cancer patients in the guideline in 2005.
Of the T4 patients (n = 3,064) 31% of those aged <75 years received adjuvant CT. Crude 5-year survival for patients receiving adjuvant CT was 71%, while this was 55% for those not receiving adjuvant CT ($p < 0.0001$). Multivariate survival analysis for patients with a T4 lesion showed that age ⩾75 years and <10LNs were negative prognostic factors, in contrast to adjuvant chemotherapy and male gender. Furthermore, survival differed by geographic region in patients with a pT4 lesion.
Of the patients with <10LNs (n = 10,264), just 12% aged <75 years received adjuvant CT.
Crude 5-year survival for patients with and without CT was 70% and 71% respectively ($p = 0.19$). Multivariate survival analysis for patients with <10LNs showed that age ⩾75 years and T4 stage were significant negative prognostic factors of survival, in contrast to adjuvant CT and male gender.
Conclusion: Just a minority of the high-risk stage II colonic cancer patients received adjuvant CT, with a large variation between geographic regions, despite the fact that adjuvant CT is generally known to improve survival in high-risk stage II patients.

6118 POSTER

Randomized Phase II Study of S-1, Oral Leucovorin, and Oxaliplatin Combination Therapy (SOL) Versus MFOLFOX6 in Patients With Untreated Metastatic Colorectal Cancer (mCRC)

H. Ojima[1], K. Yamazaki[2], H. Kuwano[3], T. Otsuji[4], T. Kato[5], K. Shimada[6], T. Denda[7], T. Esaki[8], I. Hyodo[9], N. Boku[10]. *[1]Gunma Prefectural Cancer Center, Gastrointestinal Surgery, Gunma, Japan; [2]Shizuoka Cancer Center, Division of Gastrointestinal Oncology, Shizuoka, Japan; [3]Gunma University Hospita, Department of General Surgical Science, Gunma, Japan; [4]Dongo Hospital, Department of Internal Medicine, Nara, Japan; [5]Minoh City Hospital, Department of Surgery, Osaka, Japan; [6]Showa University Northern Yokohama Hospital, Department of Internal Medicine, Kanagawa, Japan; [7]Chiba Cancer Center, Division of Gastroenterology, Chiba, Japan; [8]National Kyusyu Cancer Center, Gastrointestinal and Medical Oncology Division, Fukuoka, Japan; [9]University of Tsukuba, Division of Gastroenterology, Tsukuba, Japan; [10]St. Marianna University School of Medicine, Department of Clinical Oncology, Kanagawa, Japan*

Background: FOLFOX is a standard first-line regimen for mCRC. Monotherapy with S-1, an oral fluoropyrimidine, showed a response rate of 37% for mCRC, and its combination with oxaliplatin (L-OHP) or oral leucovorin (LV) demonstrated response rated of 50%, 57%, respectively, and all six patients at the recommended dose in the phase I trial of S-1 plus LV plus L-OHP (SOL) showed PR. We conducted a randomized phase II trial to evaluate efficacy and safety of SOL compared with mFOLFOX6 as first-line treatment of mCRC.