response, while UFT/LV+XRT and UFT+XRT showed almost additive effects.

Group	Treatment	GD (days, mean±SD)		Synergy ratio
G1	UFT	2.00±0.25		–
G2	UFT/LV	4.75±0.83	P < 0.05 vs G1	–
G3	S-1	6.00±0.96	n.s. vs G2	–
G4	XRT	5.08±0.91		–
G5	UFT+XRT	7.75±0.92		1.09
G6	UFT/LV+XRT	9.25±1.01	n.s. vs G5	0.94
G7	S-1+XRT	15.25±3.10	P < 0.05 vs G6	1.38

Conclusion: S-1 showed a stronger radiosensitizing activity than UFT or UFT/LV in a mouse xenograft model of human colon cancer. These results suggest that S-1 is a promising new candidate in combination with preoperative XRT in LARC.

6101 POSTER

"Determina KRAS" Project: what have we learned after nine months?

J. Garcia-Foncillas[1], B. Honorato[2], T. Caldes[3], M. de la Hoya[3], J. Hernandez[4], S. Landolfi[4], M. Mata[5], S. Gallach[5], M.D. Bautista[6], M. Benavides[7]. *[1]Clinica Universitaria Navarra, Department of Oncology and Radiotherapy, Pamplona, Spain; [2]Clinica Universitaria Navarra, Unit of Clinical Genetics, Pamplona, Spain; [3]Hospital Clinico Universitario "San Carlos", Oncologia, Madrid, Spain; [4]Hospital Universitario Valle de Hebron, Anatomia Patologica, Barcelona, Spain; [5]Hospital General, Oncologia, Valencia, Spain; [6]Hospital Universitario "Carlos Haya", Anatomia patologica, Malaga, Spain; [7]Hospital Universitario "Carlos Haya", Oncologia, Malaga, Spain*

Background: ASCO addresses the utility of KRAS gene mutation testing in patients with metastatic colorectal cancer (mCRC) to predict response to anti-EGFR MoAb therapy. Recent results from phase II and III studies demonstrate that patients who have mutations in codons 12 or 13 of KRAS gene do not benefit from this therapy and patients with wild-type KRAS had better clinical response in terms of prolonged median progression-free survival and overall response rates when compared to mutant KRAS.
Screening for colorectal tumors lacking KRAS mutations may facilitate identification of patients most likely to benefit from anti-EGFR therapies. CRC in Spain is an important issue. As of May 2008, it was not feasible to determine KRAS mutational status in much of the country. The Spanish project "Determina KRAS" was developed in order to answer this need allowing access to the test throughout the country. Results of the first nine months of development of this project are shown.
Material and Methods: Five well-known Spanish centres were adequately trained and provided with the equipment necessary to analyse KRAS status over a period of five working days. Testing for the mutation began at the first centre in July 2008, and the last centre in October 2008.
KRAS mutations were detected using a validated KRAS mutation kit (DxS Ltd, Manchester, United Kingdom) which identifies seven different somatic mutations located in codons 12 and 13 using allele-specific real-time polymerase chain reaction.
Results: In total, 4169 samples from mCRC patients were analyzed (39% in first line). 89% of samples analyzed were paraffin-embedded. There were no technical problems in 97% of cases. 1901 samples (53.8%) demonstrated wild-type KRAS status and the G12D mutation was the most frequently observed mutation.
Conclusions: Recent clinical data have provided substantial evidence that KRAS mutational status should be used as a predictive marker of response to anti-EGFR therapies in colorectal cancer.
The "Determina Kras" Project makes the analysis available to every patient. A slight difference was observed between our data and those reported in the literature with regards to the percentage of patients harbouring the KRAS mutation. No significant differences were observed in the type of mutations. Because KRAS status is essential for treatment decision-making in mCRC, access to this test must be guaranteed.

6102 POSTER

Neutrophil/lymphocyte ratio as a predictor of response and survival in metastatic colorectal cancer

W. Chua[1], P. Beale[1], L. Horvath[1], S.J. Clarke[1]. *[1]Sydney Cancer Centre, Department of Medical Oncology, Sydney NSW, Australia*

Background: Accurate, reliable and easily accessible predictors of chemotherapy response, toxicity and survival are needed in metastatic colorectal cancer (mCRC) to allow improved tailoring of chemotherapy and to avoid potential life-threatening toxicities. Neutrophil/lymphocyte ratio (NLR) has been used as an accurate predictor of survival after resection of colorectal and non-small cell lung cancers. The aim of this study was to identify NLR as a predictive factor in addition to other clinical and laboratory predictors in the treatment of mCRC.
Methods and Methods: Clinical and laboratory variables were analysed in patients enrolled in 10 first-line chemotherapy trials for mCRC from 1999–2007 at our centre. Prospectively collected data regarding response, toxicity and survival were analysed according to clinical and laboratory variables prior to chemotherapy commencement. Chi square tests were used for correlation between variables and response or toxicity. Cox regression analysis was used to examine the effects of variables on PFS and OS.
Results: A total of 171 patients were enrolled with a median age of 61 (range 33−84) and were predominantly male (64%) with ECOG performance status (PS) 0 or 1 (97%). Younger age ($\leqslant$65) ($p = 0.032$), PS 0 ($p = 0.04$), combination chemotherapy ($p < 0.001$) and neutrophil/lymphocyte ratio (NLR) $\leqslant 5$ ($p = 0.017$) predicted for clinical response (CR and PR). Only combination treatment ($p = 0.025$) predicted for worse grade 3 or 4 toxicity during chemotherapy. ECOG PS 0 ($p = 0.001$), combination chemotherapy ($p < 0.001$) and NLR $\leqslant 5$ ($p = 0.008$) predicted for improved PFS. Predictors of improved OS were PS 0 ($p = 0.01$), combination chemotherapy ($p = 0.039$), normal alkaline phosphatase ($p = 0.023$) and NLR $\leqslant 5$ ($p = 0.014$).
Conclusion: These results have identified NLR as a potential laboratory variable for predicting response, PFS and OS. Further studies are required to confirm the utility of NLR and the role of other inflammatory markers in this setting.

6103 POSTER

Expression and role of placenta growth factor (PlGF) on colorectal carcinomas

M. Baek[1], T. Ahn[1], D. Jeong[2], S. Cho[3], J. Kim[3], E. Shin[4], O. Song[4]. *[1]Soonchunhyang University Cheonan, Surgery, Cheonan, Korea; [2]Soonchunhyang University Cheonan, Pathology, Cheonan, Korea; [3]Soonchunhyang University Hospital, Surgery, Seoul, Korea; [4]Soonchunhyang University Bucheon, Surgery, Bucheon, Korea*

Background: Placenta growth factor (PlGF) is a member of the vascular endothelial growth factor (VEGF) family. PlGF is implicated in several pathologic processes, including the growth, spread of cancer and tumor angiogenesis. The aim of this study was to evaluate expression and clinical implications of PlGF in colorectal cancer.
Methods: In order to ascertain the clinical significance of PlGF expression in colorectal cancer, we analysed the expression pattern of PlGF using both immunohistochemical method and real time quantitative PCR and attempted to establish if a relationship existed between PlGF and microvessel density (MVD), and subsequently between PlGF and the predicted prognosis. We investigated 72 tumor/non-tumor pairs of fresh colorectal tissues for real time PCR and a total of 83 patients with colorectal cancer were included for immunohistochemical staining. Clinicopathological characteristics were defined according to the TNM criteria of the UICC. Clinico-pathologic factors, such as age, sex, histological types of tumors, tumor cell grade, TNM stage, lymphovascular invasion, lymph node metastasis, were reviewed.
Results: The mRNA expression levels for PlGF was significantly higher in tumor than in non-tumor tissues ($p = 0.001$). The ratio of PlGF expression in tumor to non-tumor in the advanced staged group was significantly higher than for the early staged group. PlGF mRNA was significantly higher in III-IV stage patients than in stage I-II patients ($p = 0.011$). The relationship between PlGF mRNA expression and sex, histological type, lymph node status was otherwise not statistically significant. PlGF protein expression level was significantly correlated with MVD, patient survival, and clinicopathological factors such as lymph node metastasis, TNM staging, lymphatic invasion and vascular invasion in this study.
Conclusions: PlGF may be an important angiogenic factor in human colorectal cancer, and PlGF expression level was significantly correlated with positive lymph node metastases, tumor stages, and patient survival. These findings suggest that PlGF expression correlates with disease progression and may be used as a tumor marker for colorectal cancer.