

platelets 1.04 [IC 95% (0.47-2.32)], for AST 0.85 [IC 95% (0.61-1.17)], for ALT 0.63 [IC 95% (0.51-0.77)] and for AP 1.57 [IC 95% (0.19-13.2)]. The RR of developing g1-4 nausea was 2.41 [IC 95% (1.61-3.62)], vomiting 1.78 [IC 95% (1.11-2.86)], fatigue 1.81 [IC 95% (1.27-2.60)] and febrile neutropenia 1.45 [IC 95% (0.32-6.54)].

**Conclusions:** The toxicity profile of ET-743 1.3 mg/m<sup>2</sup> over 3 h plus the administration of corticosteroid treatment day -1 to day +2 seems safe, being neutropenia, thrombopenia and reversible and not cumulative aminotransferases increase the principal laboratory toxicities.

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### Pharmacokinetics and metabolism of CPT-11 (Campto®) combined with capecitabine (Xeloda®) in patients with advanced colorectal cancer: altered disposition of the metabolites SN-38 and SN-38 glucuronide?

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The plasma concentrations of irinotecan (CPT-11) and its metabolites SN-38 and SN-38gluc were evaluated in 10 patients who were treated with a regimen of Campto® / Xeloda® against advanced colorectal cancer (paired cross over, Campto® monotherapy versus Campto® + Xeloda® schedule). Both cytostatics are prodrugs which have to be bioactivated by liver carboxylesterase to the cytotoxic agents.

Samples were first analysed under acidic conditions to calculate the total amount of CPT-11 and its metabolites in blood and second under neutral conditions for information of the carboxylate lactone equilibrium of CPT-11 and SN-38. Capecitabine (CCB) did not alter the mean CPT-11 plasma concentrations, only small differences ranging from 4% to +16% could be found ( $p < 0.55$ ). Noncompartment pharmacokinetic analysis confirmed the results of plasma data: no statistically significant change of  $c_{max}$ , AUC, Vd, Cl and MRT could be observed in the combination schedule.

Contrary to CPT-11 disposition, mean SN-38 plasma concentrations seemed to be altered in the CCB group of the study. Differences of SN-38 concentrations in the combination treatment (compared to the control arm) were strongly time - dependent: per cent difference increased from -53% at 15 min to +23% at 300 min after start of infusion ( $p < 0.005$ ,  $corr = 0.981$ ). For SN-38gluc, a very similar effect was evaluable: from -39% at 15 min to +6% at 300 min ( $p < 0.027$ ,  $corr = 0.959$ ). Analysis of lactone versus carboxylate forms revealed that this effect might base on lower lactone concentrations of SN-38, when CCB was coadministered.

After acidic analytical conditions, PK parameters of SN-38gluc seemed to be unaffected by CCB (noncompartment PK model). But the apparent formation - rate of SN-38gluc was delayed by CCB significantly:  $t_{1/2}$  appin =  $25.0 \pm 9.6$  min versus  $42.3 \pm 12.5$  min in the CCB group ( $p < 0.004$ ). Accordingly,  $t_{max}$  occurred later:  $108.0 \pm 32.2$  min versus  $150.0 \pm 31.6$  min ( $p < 0.016$ );  $c_{max}$  was slightly lower (not significant). From our in-vitro results we know that there exists a certain potential of drug-interaction between CPT-11 and CCB. Even small changes in the disposition of SN-38 (activation pathway) and SN-38gluc (detoxification pathway) may have pharmacological consequences in CPT-11 chemo-therapy.

Detailed in-vivo and in-vitro results (including drugs of premedication as tropisetron and dexamethasone) are presented and discussed (studies ongoing).

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### Dose finding study of oral vinorelbine (VRL) in combination with capecitabine (CAP) in patients with metastatic breast cancer (MBC)

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**Background:** VRL and CAP are active in MBC and are often combined with various cytotoxics. Both are orally available, have different mechanisms of action and involve carboxylesterases in their metabolism.

**Material and methods:** We aimed at determining the maximum tolerated dose (MTD) and the recommended dose (RD) of oral VRL given on days (D) 1 and 8 at 60 or 80 mg/m<sup>2</sup> and CAP from D1 to D14 at doses ranging from 1650 to 2500 mg/m<sup>2</sup>/d every 3 weeks. At the RD, a weekly schedule of oral VRL is to be evaluated. Pharmacokinetics of VRL, CAP and metabolites

are determined on D1 and 7 of cycle 1 to study putative mutual interaction. Dose limiting toxicities (DLTs) are defined during the first cycle as grade (gr) 4 neutropenia for 7 days, gr 3 thrombocytopenia, febrile neutropenia, neutropenic infection, one week-delay in starting cycle 2 due to toxicity, gr 3/4 non-haematological toxicity except asthenia, inadequately treated nausea/vomiting or diarrhoea. Cohorts of 3 to 6 patients are treated per dose level (DL). DLT in 2 pts in any DL determines the MTD.

**Results:** To date 24 pts were included in 5 DLs. Age ranged from 31 to 66 years. Main metastatic sites were visceral (83%) and bone (38%). Fourteen pts had 2 or more organ involved. DL1 (60 VRL + 2000 CAP) was well tolerated without gr 3/4 event in 3 pts and 13 cycles. MTD was reached at DL3 (60 VRL + 2500 CAP) and DL4 (80 VRL + 1650 CAP): DLTs consisted in persisting neutropenia which resulted in delay in starting cycle 2 for 5 pts (gr 2, gr 3 and gr 4 neutropenia each in 1 pt at DL3, and, at DL4, gr 2 neutropenia in 2 pts) and febrile neutropenia in 1 pt. DL2 (60 VRL + 2250 CAP) was a RD. As per protocol a weekly schedule of 60 VRL + 2250 CAP was tested and MTD (gr 2 neutropenia on D21 in 1 pt, gr 3 thrombocytopenia concomitant with gr 3 neutropenia in another pt) was reached.

Gr 3/4 toxicities among 31 cycles at DL2 were one episode of gr 3 diarrhoea (2 pts) and, in 1 pt each, gr 4 bilirubin, gr 3 nausea and gr 3 wound infection while haematological events consisted in gr 4 neutropenia (2 pts, 2 cycles) and gr 3 leucopenia once in 1 pt. To date, 1 CR and 3 PRs are confirmed in the study population. Drug-drug interaction has not been suspected up to now.

**Conclusions:** Oral VRL 60 mg/m<sup>2</sup> on D1 and 8 and CAP 2250 mg/m<sup>2</sup> from D1 to D14 every 3 weeks is currently the RD. The weekly administration of oral VRL 60 mg/m<sup>2</sup> and CAP 2000 mg/m<sup>2</sup> every 3 weeks and a 4-week regimen are now being investigated.

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### Phase I dose-finding study of the combination of alimta (pemetrexed) and paclitaxel in patients with solid tumors

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**Background:** Pemetrexed, a novel multitargeted antifolate, has activity in mesothelioma, NSCLC, breast and colon cancers. Paclitaxel exerts its anti-neoplastic effect via disruption of microtubule assembly and also has activity in a variety of solid tumors. This reports on one schedule of 3 different sequences evaluated in a phase I study of pemetrexed in combination with paclitaxel in patients with advanced malignancies.

**Patients and methods:** The primary study objective was to determine the maximum tolerated dose (MTD) of the combination; secondary objectives included determination of dose-limiting toxicity (DLT) and recommended doses for phase II study. DLT was defined as the occurrence of \* 1 of the following during cycle 1: Grade (G) 4 neutropenia lasting \* 5 days (d), febrile neutropenia, G4 thrombocytopenia, or G3 non-hematologic toxicity (except G3 nausea, vomiting, and transaminase elevation). Paclitaxel was infused over 3 hours on d1 and d8 of a 21d cycle; standard taxane premedications were also administered. Pemetrexed was infused over 10 minutes on d8 prior to paclitaxel; oral folic acid and parenteral vitamin B<sub>12</sub> were also administered to reduce pemetrexed toxicity.

**Results:** Twenty-one patients (15 men, 6 women) with a median age of 59 (range, 34-77) and a WHO performance status 0/1 (90%) were enrolled and treated as described below. Tumor types represented in this study include: pancreas (4), esophagus (3), colorectal (3), lung (3), liver (2), head and neck (1), melanoma (1), and other (4). 12/21 patients had received prior chemotherapy. 71 cycles were administered with a median 3 cycles (range, 1-10). There were no dose reductions or omissions. 17/25 dose delays were due to scheduling conflicts; myelosuppression (5), nasopharyngitis

Pemetrexed/ paclitaxel (mg/m <sup>2</sup> )	Cohort (#pts)	DLT (# pts)	Other Clinically Significant Toxicity (#pts)
400/30	1 (6)	G3 bilirubin (1)	G4 neutropenia (1) G3 anemia (1)
500/30	2 (6)	G4 thrombocytopenia + + G4 febrile neutropenia + G3 edema (1)	G3 asthenia (1) G3 bilirubin (1)
500/40	3 (6)	G3 bilirubin + G3 alkaline phosphatase (1)	G3 hyperglycemia (1) G3 thrombocytopenia (1) G4 hemorrhagic ulcer (1)
500/50	4 (3)	None	G3 fatigue (1) G3 nausea (1) G3 transaminitis (1)