The 1(q11→qter) abnormality has been observed in a transplanted CML patient [7], containing an unusual translocation t(1;3) (q11;p11) that underwent clonal selection involving six cell lines. The clone with the der(1) seemed to have gained a selective growth advantage and within 5 months of transplantation became the dominant line. The 1q11 break point has been reported previously in those cases of CML containing variant translocations [1, 2]. It appears that in at least those 2 cases of CML, the 1q11 breakpoint, in the presence of the altered *abl* oncogene, is conferring some type of advantage to those cells that are undergoing division, as both became the dominant clones within their respective populations. The mechanisms involved in the translocation may somehow be affecting the p53 gene, ultimately causing a reduction or blockage of transcription, thus providing a selective growth advantage to the aberrant clone.

It may be possible to further elucidate the mechanism(s) of clonal evolution in this biphasic disease through analysis of information from variant cases.

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5-HT_3 Receptor Antagonists in the Prophylaxis of Acute Vomiting Induced by Moderately Emetogenic Chemotherapy—a Randomised Study

J. Bonneterre and B. Hecquet

WE WERE interested in the study reported by Jantunen and colleagues comparing, in patients receiving a moderately emetogenic regimen, ondansetron, granisetron and tropisetron [1]. However, we would like to raise a number of points: although this is a cross-over study, no period and carry-over effects were looked for, thus preventing any definite conclusion. While period and carry-over analyses are not easy with three drugs, some papers have addressed such problems [2]. In Table 2 (unfortunately the number of patients in each group was not given), examination of the granisetron failure rates in each cycle shows that the differences are striking (2% at the first cycle, 13.6% at the second and 8.7% at the third), and could be explained by a period effect; the data on the patients evaluable for the three cycles are unfortunately not available. In Table 3, patients should only have been pooled in the absence of a period and carry-over effect.

Nausea was not evaluated in the study, although it is clear that moderate and severe nausea are very distressing side-effects for the patients. The type of chemotherapy was poorly defined—was the treatment always administered in one day? Finally, given the patient heterogeneity, a comparison of the clinical characteristics of the patients in each group should have been given (e.g. were there more chemotherapy naive patients in one group?). Unfortunately, the alcohol intake was not recorded.

An adequate statistical analysis of this study would be useful before any conclusion can be drawn.

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5-HT_3 Receptor Antagonists in the Prophylaxis of Acute Vomiting Induced by Moderately Emetogenic Chemotherapy—a Randomised Study

I. Jantunen and T. Muhonen

WE DO agree with Dr Aapro and Professor Bonneterre on the shortcomings of our study (alcohol intake was not recorded, nausea was not evaluated). It is also obvious that a cross-over design with three drugs includes many methodological problems. A parallel group design with 650 chemotherapy-naive patients would have been optimal for comparing these three drugs. Such a study cannot be accomplished without a large collaborative study group and financial support. In our study, the chemotherapy was administered in one day. During the first chemotherapy cycle, there were 17 chemotherapy-naive patients randomised to receive ondansetron, 15 tropisetron and 17 granisetron. The number of evaluable patients during each chemotherapy cycle has been added to the rewritten Table 2.

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Table 1. Grade of control of vomiting during the first 24 h in three cycles of moderately emetogenic chemotherapy assessed by cycle (per cent evaluable patients in each cycle)

Grade of control	Cycle 1 (n = 161) Ondansetron n = 56(%)	Tropisetron n = 55(%)	Granisetron n = 50(%)	Cycle 2 (n = 139) Ondansetron n = 49(%)	Tropisetron n = 46(%)	Granisetron n = 44(%)	Cycle 3 (n = 130) Ondansetron n = 36(%)	Tropisetron n = 48(%)	Granisetron n = 46(%)
Complete	34 (60.7)	41 (74.5)	42 (84.0)*	36 (73.5)	31 (67.4)	31 (70.5)	25 (69.4)	35 (72.9)	37 (80.4)
Partial	12 (21.4)	7 (12.7)	7 (14.0)	8 (16.3)	3 (6.5)	7 (15.9)	4 (11.1)	8 (16.7)	5 (10.9)
Failure	10 (17.9)	7 (12.7)	1 (2.0)*†	5 (10.2)‡	12 (26.1)	6 (13.6)	7 (19.4)	5 (10.4)	4 (8.7)

*$P < 0.01$ granisetron vs. ondansetron; †$P < 0.05$ granisetron vs. tropisetron, ‡$P < 0.05$ ondansetron vs. tropisetron

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CA50 as a Serum Marker for Pancreatic Carcinoma: Comparison With CA19-9

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CA19-9 IS A very well known serum marker for pancreatic cancer and other gastrointestinal neoplasms [1]. However, neither CA19-9 nor other routinely used serum markers have a fully satisfactory sensitivity and specificity in the diagnosis of pancreatic cancer [2]. New antigens have, therefore, been recently investigated.

CA50 is a tumour-associated sialylated glycoprotein ganglioside antigen which has been studied as a possible diagnostic tool for pancreatic cancer [3]. We compared the CA50 and CA19-9 serum levels in 50 healthy controls, 50 patients with pancreatic carcinoma and 71 patients with chronic pancreatitis. The pancreatic malignancies included 46 ductal adenocarcinomas, three acinar cell carcinoma and one cystadenocarcinoma. The differentiation degree of the tumour was available in 44 cases. The cancer was well differentiated in 22 cases, moderately differentiated in 10 cases and poorly differentiated in 12 cases. According to the Hermreck's staging cryteria [4], 2 patients were in stage I, 4 patients in stage II, 21 patients in stage III and 23 were in stage IV. 30 cancer patients were jaundiced.

The CA19-9 assay was performed by an immunoradiometric technique (GICAK, Sorin Biomedica, Saluggia, Italy), while CA50 levels were tested using an inhibition radioimmunoassay (Can Ag, Stena Diagnostic, Sweden). According to our previous experience [5], we chose a cut-off limit of 37 U/ml for CA19-9 while the cut-off limit for CA50 was 17 U/ml, as suggested by Holmgren [6].

CA19-9 levels were elevated in 40/50 (80%) patients with pancreatic cancer while CA50 was raised in 41/50 (82%) cases. 39 of the 50 (78%) patients had high levels of both markers, while in 41/50 (82%) cases at least one of the tests was positive. In the group of patients with chronic pancreatitis, a false positive test occurred in 6/71 (8.4%) patients using CA19-9, while CA50 was raised in 8/71 (11.3%) cases. In 5/71 (7.0%) patients both markers were above cut-off levels. No false positive results occurred in the controls. The specificity of the CA19-9 assay could be improved up to 98.6% by choosing a cut-off value of 100 U/ml, while the sensitivity remained at 72%. Choosing a higher cut-off value for CA50 (85 U/ml) in order to obtain a similar specificity, the sensitivity decreased to 46% (Table 1).

Both average serum levels and the rate of positive tests were related to the stage of the cancer [7, 8]. However, we were not able to find any cut-off value useful in predicting the resectability of the tumour.

The presence of jaundice, previously reported to influence CA19-9 levels [9], in our experience, did not affect the positivity rate of the test using either marker. The positivity of the tests was also unaffected by the degree of differentiation of the tumour.

CA50 is as sensitive as CA19-9 as a serum tumour marker for pancreatic cancer but, in our experience, this assay did not improve the diagnosis of the tumour.

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