LETTER TO THE EDITOR

Severe hypertriglyceridaemia associated with the use of capecitabine

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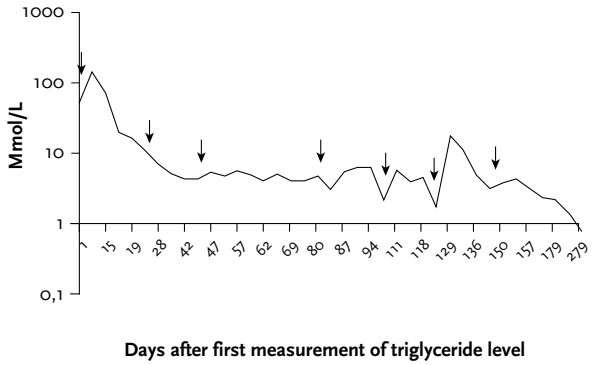
Dear Editor,

Capecitabine is frequently used as adjuvant chemotherapy in colorectal cancer and in the treatment of advanced or metastatic breast, colorectal or gastric cancer.[1,2] The main adverse effects of capecitabine are palmar-plantar erythrodysthesia, diarrhoea and stomatitis.[3] Only a few cases of capecitabine-associated hypertriglyceridaemia have been documented.[2-4]

A 52-year-old man was treated with adjuvant capecitabine/oxaliplatin (CAPOX) therapy after a laparoscopic rectum resection because of rectal carcinoma. Because of weight loss his dietician had advised a protein- and fat-enhanced diet a couple of months before. At the end of the third cycle of CAPOX severe dyslipidaemia with extremely high triglycerides levels was observed (138 mmol/l). The CAPOX cycle was discontinued, a low-fat diet was advised and gemfibrozil medication was started. After normalisation of the lipid spectrum, CAPOX was restarted in increasing dosages of capecitabine. After another cycle with a full dose of CAPOX, the patient developed hypertriglyceridaemia again (*figure 1*). Primary causes of hypertriglyceridaemia were excluded. Apolipoprotein B and HbA1c were in the normal range. The patient was not known to have a genetic disorder of lipid metabolism and lipoprotein lipase activity proved to be normal. A post-heparin lipolytic activity test was normal. Consequently an apolipoprotein C-II deficiency was not likely and we did not perform a immunoturbidimetric test. The apolipoprotein E genotype was E3/E3 excluding familial dysbetalipoproteinaemia. All known causes of secondary hypertriglyceridaemia were excluded as well, except the high-fat diet which the patient had used. But a diet leading to these high levels of triglyceride is unlikely because increases after a high-fat meal seldom exceed 5 mmol/l in the absence of other factors.

Evaluating our case and previous case reports,[2-4] the most likely cause of the severe hypertriglyceridaemia is a side effect of capecitabine treatment. According to the Modified Naranjo Scale, a method for estimating the probability of adverse drug reactions, this side effect should be scored as a definite adverse drug reaction of capecitabine.[5]

Figure 1. *Triglycerides related to capecitabine/oxaliplatin*



Lipid monitoring is not routinely performed in cancer patients receiving capecitabine. Since hypertriglyceridaemia is a serious side effect it should be considered to routinely perform a lipid spectrum in the treatment of patients with capecitabine-containing regimens.

REFERENCES

1. Stathopoulos GP, Koutantos J, Lazaki H, et al. Capecitabine (Xeloda) as monotherapy in advanced breast and colorectal cancer. Anticancer Res. 2007; 27:1653-6.
2. Bar-Sela G, Haim N. Uncontrolled hypertriglyceridemia induced by Capecitabine. Cancer Chemother Pharmacol. 2009; 63:779-82.
3. Koutras AK, Habeos IG, Vagenakis AG, et al. Capecitabine-induced hypertriglyceridemia. Anticancer Res. 2006;26:2249-514.
4. Kurt M, Babaoglu MO, Yasar U et al. Capecitabine-induced severe hypertriglyceridemia. Ann Pharmacother. 2006;40:328-31.
5. Naranjo CA, Busto U, Sellers EM, et al. A method for estimating the probability of adverse drug reactions. Clin Pharmacol Ther. 1981;30:239-45.