

Decreased serum levels of carboxylesterase-2 in patients with ovarian cancer

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ABSTRACT

Aims and background. Carboxylesterase-2 has been identified as the key enzyme in the metabolic activation of irinotecan, a topoisomerase I inhibitor commonly used in the treatment of many solid tumors. Previous studies have shown that carboxylesterase-2 is down-regulated in colorectal cancer following progression of the disease. However, very limited information is available on carboxylesterase-2 expression in ovarian cancer. The aim of the present study was to detect the serum level and the tissue expression of carboxylesterase-2 in human ovarian cancer patients at different stages of the disease.

Methods. Carboxylesterase-2 levels in the serum of ovarian cancer patients were investigated by western blot and ELISA and in the tumor mass of ovarian cancer patients by western blot.

Results. Both the serum carboxylesterase-2 level and the expression of carboxylesterase-2 in tumor tissues were significantly different among patients at different stages of the disease (n = 40). No positive correlation was found between the serum carboxylesterase-2 level and the cancer antigen 125 level (n = 40). Serum carboxylesterase-2 is more sensitive than cancer antigen 125 in detecting the early stage patient with ovarian cancer.

Conclusions. Our results indicate that serum carboxylesterase-2 level might be a potential marker in the diagnosis of the early stage ovarian cancer.

Key words: human carboxylesterase-2, ovarian cancer, serum, staging.

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