

# Soluble Intracellular Adhesion Molecule-1 in the Serum of Colon and Gastric Cancer Patients

Dear Editor,

Intercellular adhesion molecules-1 (ICAM-1) is a glycoprotein belongs to the immunoglobuline superfamily, and constitutively expressed by endothelial cells and some leukocytes. It can be induced in many other cell types in vivo as well as in vitro. ICAM-1 does not express on colonic tissue and gastric normal epithelial, but it express on malignant cell surface on both colon and gastric cancer as well as some other malignant. In addition, in vitro studied show ICAM-1 is shed by tumor cell line and is detectable in cell culture supernatants. In addition, the surrounding infiltrated lymphocytes in cancer tissue, express the ICAM-1 and this protein molecule as tumor activity or immune response function or both could be detect in tissue environment or circulation. Although, ICAM-1 has been identified on different origin of tumor, it has not been known as a tumor antigen marker. We tried to determine the human soluble ICAM-1 in the serums by sandwich enzyme immunoassay principal. The ICAM-1 molecule levels in both gastric and colon cancer patients before operation were determined  $701\pm 189$  ng/ml and  $761\pm 205$ ng/ml respectively. The level of ICAM-1 increased approximately by four folds in the patient group. In post-operative state the reduction level was 26% in gastric cancer and 19.3% for colon cancer group respectively. In a comparative analysis it was concluded that the fluctuation of ICAM-1, CEA and CA19-9 in patient serums was independent from each other. Maruo et al indicated a physiological sICAM-1 level equal to  $262\pm 64$  ng/ml for healthy persons.<sup>1</sup> Similar data was indicated by Alexions et al.<sup>2</sup> These ranges of the protein molecules could be considered for healthy persons. However, in patient with positive metastasis the ICAM-1 concentrations were much higher. In our study, the serum level of majority of patients show elevated CA19-9, CEA levels that indicated a sign of developing malignancy; this augmentation is similar with sICAM-1 concentration in patient serums. Similar conclusions were achieved by polychronidis and others, but using sICAM-1 molecule as a definite tumor marker (tumor association marker) has been stated that needs more confirmation. In the present study the serum levels of ICAM were higher in tumor with well-differentiated grade than the other two pathological grades. However, the percentage of patients who their protein markers remain constant with pre-operative state for sICAM-1 was lower than the both CEA and CA19-9. This might be an advantage for sICAM-1, but it still needs more sought.

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**References**

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- 2 Alexiou D, Karayiannakis A.J, Syrigos K.N, et al. T. Clinical significance of serum levels of E-selectin, intercellular adhesion molecule-1, in gastric cancer patients. *Am J Gastroenterol* 2003; 98: 478-85.