

Clinical Evaluation of Serum CEA Level in Various Malignant Tumors

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CEA levels in patients with various malignant tumors were measured by Sandwich method (Dainabott), and positive rates and variation in CEA levels before and after surgery, radiotherapy and chemotherapy were discussed. Furthermore, a comparative study between Sandwich method and double antibody method was done.

The results are as follows:

- 1) In this method, 152 (58%) of 262 patients with malignant tumors showed over 2.5 ng/ml of serum CEA.
- 2) High positive rates were seen in various cancers

of alimentary tract (esophageal cancer 70%, gastric cancer 67%, colon cancer 100%, rectal cancer 87%), lung cancer 83%, pancreas cancer 83% and breast cancer 73%.

- 3) CEA levels over 10 ng/ml may indicate the presence of metastases of malignant tumors.
- 4) Fairly high positive rates were seen in chronic hepatitis (49%) and liver cirrhosis (62%).
- 5) We observed a good correlation in CEA levels between Sandwich method and double antibody method ($\gamma = +0.82$).

Significance of CEA-Radioimmunoassay for Clinical Diagnosis of Digestive Diseases

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Carcinoembryonic antigen (CEA) in plasma of 189 patients with various kind of digestive diseases and 64 patients with other diseases was measured by radioimmunoassay using CEA-Roche Kit of Z-gel method and solid-phase method of Sepharose-4B which was developed by authors.

Plasma levels of CEA over 2.5 ng/ml were considered as positive.

In patients with digestive diseases, 78 out of 111 (70%) plasma of cancer showed positive levels whereas 40 out of 78 (51%) plasma of non-cancer showed also positive levels. On the other hand, in patients with non-digestive diseases 61% of cancer and 35% of non-cancer showed positive levels. The observed high positivity of CEA levels

in non-cancer patients seemed to be seriously considered.

In 79 carcinoma of stomach, positive CEA was observed in 75% of 61 advanced cases and in 22% of 18 early gastric carcinoma. In the advanced gastric cancer, higher levels of plasma CEA were observed in the protruded types, namely in Borrmann I along with types II and III, but not in type IV. In the early gastric cancer, however, there was no remarkable correlation between plasma CEA levels and its macroscopic classification.

Most of the patients with CEA levels as high as 25 ng/ml or more had metastasis of cancer and poor prognosis.