Society. The positive CEA were obtained in 19% (3/16) of stage 1,30% (7/23) of stage II, 37% (10/27) of stage III, 74% (31/42) of stage IV and 50% (4/8) in recurrent cases. CEA levels over 20 ng/m*l* was observed in 15% of stage III and 48% of stage IV.

CEA level was also observed in terms of histological type. The positive CEA were obtained in 34% (19/56) of squamous carcinoma, 75% (31/40) of adenocarcinoma, 24% (4/17) of small cell carcinoma, 33% (1/3) of large cell carcinoma.

The intermittent measurement of plasma CEA level was avilable to estimate the effect of treatment and prognosis in lung cancer. In lung cancer patients, high CEA levels were decreased to below 2.5 ng/m*l* after curative operation, and rising of CEA levels were seen in most of patients with relapse or progress.

Clical Significance of Carcinoembryonic Antigen in the Liver Diseases

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Studies on the Radioimmunoassay of Carcinoembryonic antigen (CEA) using CEA-RIA kit were performed in 205 cases. Of 205 cases, 54 had benign diseases, 111 had malignant diseases and remaining 40 had normal subjects.

1) It was considered that normal range of serum levels were 0–2.5 ng/m*l*.

2) 30 out of the 40 (75%) patients with hepatic metastasis had CEA levels greater than 5 ng/m*l*, on the other hand 6 out of the 26 (23,1%) patients with non hepatic metastasis.

A CEA level greater than 5 ng/m*l* thus indicates the presence of metastatic lesion in the liver.

3) Detection of CEA and AFP could help differentiate primary and metastatic liver cancer.

4) In metastatic liver cancer, 27 out of the 35 (71%) showed CEA levels greater than 5 ng/m*l*, 25 out of the 35 (77%) showed clear-cut of focal defect on liver scintigram. Over-all diagnostic accuracy for detection of metastatic liver cancer which showed either well defined focal defect on liver scintigram or positive CEA was 91.4%.

5) Serial CEA determinations during chemotherapy and after operation may be useful monitoring cancer patients.

Evaluation of C. E. A. Values in Urine on Diseases of Urinary Tracts

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Usefulness of urinary CEA level measurement as a screening test for detection of tumor recurrence in cases with postoperative status for urinary disorders was evaluated.

MATERIALS AND METHODS (1) Two hundred six cases with various urinary disorders with or without surgery were studied. Urinary CEA levels were measured by radioimmuno-assay of one step sandwich method. CEA levels above 2.5 ng/m*l* were considered positive. Frequency of positive CEA and urinary CEA levels among each disorder were evaluated.

(2) Experimental studies: Tissue CEA levels of resected large and small intestines using mice (d.d.N. Strain) were measured by two step radioimmuno assay methods.

RESULTS (1) Most post-operative cases showed highly abnormal urinary CEA levels.

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