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BASIC AND CLINICAL EVALUATION OF MEASURING SERUM SCC CONCENTRATION.

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Squamous cell carcinoma related antigen (SCC) is a protein with molecular weight of 4500. SCC is fairly found in the patient's serum of squamous cell carcinoma of lung, esophagus, uterus. It is expected as a specific tumor marker of squamous cell carcinoma. By using SCC RIA kit (double anti-body radio-immunoassay, Dainabot) we carried out basic and clinical evaluation. Method of kit is simple and the result of basic evaluation is almost satisfactory to us. We measured other tumor markers (CEA, Ferritin etc) of the same sample which we used for the clinical evaluation. We expected rise of positive ratio in malignant tumor by combination assay. It seems measurement of SCC in serum is useful as marker of squamous cell carcinoma.

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BASIC CLINICAL EVALUATION OF SQUAMOUS CELL CARCINOMA RELATED ANTIGEN (SCC) KIT. Y. Takahara, S. Daibo, J. Sato, A. Ishibashi, Y. Tajima, S. Yamashita, T. Dokiya, Y. Yonahara. Tokyo National 2nd Hospital, Nuclear Medicine Center. Tokyo.

SCC is M/W 4500 protein separated and purified from cervical squamous carcinoma by Kato and his group at Yamaguchi Univ. in 1977. It was clarified that SCC showed high positive ratio against squamous cell carcinoma of uterine cervix, lung and esophagus and "SCC RIA Kit" was developed by Dainabot as squamous cell carcinoma related antigen kit. Today we have done another basic clinical evaluation of this kit. Result:

1. Reproducibility: 10 times at each serum. Used 3 kinds of serum. CV was 2.06% - 4.37%.
2. Recovery test was done to 2 kinds of pooled serum diluted with standard solution by 9:1.
3. Dilution test: Diluted with a solvent with 0 density and saline. Acquired the same linearity from both case.
4. Expected value: 93 male, 1.74±0.48ng/ml. 80 female, 1.41±0.52ng/ml. Applied 2 SD and below 2.65ng/ml.
5. SCC antigen positive ratio on squamous cell carcinoma of each disease.

Carcinoma of esophagus	(19/47)	40.4%
Lung cancer	(10/16)	62.5%
Squamous cell carcinoma	(11/19)	57.9%
Cancer of the tongue	(3/6)	50.0%

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CLINICAL EVALUATION OF SCC ANTIGEN IN PATIENTS WITH LUNG CANCER.

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Squamous carcinoma related antigen (SCC) is a tumor marker indicating proliferation as well as existence of squamous cell carcinoma of uterine cervix. We have measured serum SCC concentration in normal subjects (n=40) and patients with lung cancer (n=79) for clinical evaluation of SCC.

Serum SCC values obtained from normal subjects were 1.5±0.6ng/ml (mean±1S.D.) and cut off level was set at 2.7ng/ml. Serum SCC was positive in 81% (13/16) for squamous cell carcinoma, 22% (4/18) for adenocarcinoma, 13% (1/8) for small cell carcinoma, 0% (0/3) for large cell carcinoma and 0% (0/1) for adenocarcinoma. In two operated cases, SCC values decreased below 2.7ng/ml after operation. We experienced a posttreatment case which had shown abnormal SCC value about two months before symptom of brain metastasis. There is no relationship between serum SCC and CEA values.

In conclusion, serum SCC would be useful in patients with squamous cell lung cancer.

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STUDIES ON THE MEASUREMENT OF SERUM SQUAMOUS CELL CARCINOMA RELATED ANTIGEN WITH SCC RIA KIT

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The characteristics of the SCC RIA Kit and clinical usefulness were evaluated. Interassay errors were 5.6%-10.0% (CV%) those of interassay 6.6%-10.3%. Recovery rate was 96.4-95.0% in sera and pleural effusion. Dilution Test showed satisfactory result except a bile and a sera with high serum Ca doses. Effect of hemolysis on serum SCC values was not significant in ranging 0 to 500mg/dl of hemoglobin contents in serum. Serum SCC levels obtained from 45 normal subjects were 1.2±0.4ng/ml (mean±1S.D.) and cut off level was set at 2.0ng/ml. Serum SCC concentrations were measured in 148 patients with various cancers and benign diseases and in 12 body fluid. Serum SCC was positive in 52.7% (29/55) for squamous cell carcinoma (especially in non-treated patients was 58.3%), 23.8% (5/21) for adenocarcinoma, 18.8% (3/16) for other carcinoma, 27.3% (3/11) for benign diseases, 66.7% (8/12) for body fluid, respectively.

In conclusion, serum SCC levels determination by using SCC RIA kit, would be a useful index compatible with the course of treatment of Squamous cell carcinoma in regions of head and neck.