DETERMINATION OF SERUM NCA BY NCA-RIA (1).
M.Hamazu,Y.Ura,Y.Ochi,S.Hosoda,T.Miyazaki,
Y.Kajita and T.Hachiya. Shiga Univ. of
Medical Science, Otsu, Shiga, Kyoto prefect.
Univ of Medicine, Kyoto, Kyoto.

In commercially available CEA-RIA methods
anti-CEA sera showed the positive cross-
reactivity with NCA which exists in normal
tissue (also present in tumors). Thus, CEA
was determined by CEA-RIA using specific
antibody for CEA after absorption with NCA
preparation.

NCA preparation (Mr,60,000) purified from
the liver metastasis of a patient with colo-
rectal cancer and its antibody were used for
RIA. Because Anti-NCA sera showed cross-
reactivity with CEA, this antibody was
absorbed with the purified CEA to make the
specific antibody for NCA. As I-NCA, the
specific antibody for NCA and test serum
(0.05ml) were incubated overnight and B/F
was separated by PEG method. Serum NCA
level in normal subject was under 200 ng/ml.
No correlation between serum CEA and NCA
in cancer patients was observed. NCA was
less useful than CEA as tumor marker,
although some cases in cancer patients
showed increased NCA in accompanied with
increased CEA. It is interesting that CEA
is more useful tumor marker than NCA, in
spite of both antigens have AG-antigenic
determinant.

DETERMINATION OF URINARY NCA BY NCA-RIA (2).
T.Miyazaki,M.Ishida,Y.Kajita,T.Hachiya,
M.Hamazu and Y.Ochi. Kyoto prefect. Univ
of Medicine, Kyoto and Shiga Univ of Medical
Science, Otsu, Shiga.

Urinary CEA, NCA and α1-acid glycoprotein
(AG) levels were determined by the specific
antibody for each RIA method. One liter of
urine was concentrated by lyophilization
after dialysis against distilled water.
When the concentrated urine was fractionated
by Sephadex G-200 column, both NCA (Mr,
60,000) and AG (Mr, 50,000) fractions were
observed.

Normal level of NCA and AG in urine was
about 30 µg/l and 500 µg/l respectively.
However, CEA (Mr, 180,000) and the small
fragment of CEA were not found in the urine
of normal subject. Positive CEA (Mr,180,000)
was found in the urine of cancer patient
with high CEA level in accompanied with
large amounts of urinary excretion of both
NCA and AG.

Previously, we demonstrated that CEA and
NCA contain immune determinant in common
with AG. AG concentration in normal serum
showed 1,000 and 100,000 times higher than
NCA and CEA respectively. Thus, the urinary
excretion of NCA and AG with small molecular
weight in normal subject may be due to the
serum concentration. However, the urinary
excretion of CEA was also observed in cancer
patients with high serum CEA level.