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EVALUATION OF CLINICAL USEFULNESS OF DETERMINATION OF SERUM CA19-9 IN PATIENTS WITH HEPATOBILIARY TRACT CANCER. Y.YUMOTO, K.TOKUYAMA, K. JINNO, T.WADA, T. SHIMOE, M. MORITA, and T.ISHIMITSU. Dep. of Internal Medicine, Shikoku National Cancer Center Hospital, Matsuyama.

Subjects were comprises of 145 cases with malignant gastro-intestinal tract cancer, including 35 of gastric cancer, 13 of colorectal cancer, 25 of hepatocellular carcinoma, 42 of pancreatic carcinoma and 142 cases of benign GI diseases.

- 1) Elevated serum levels of CA19-9 were found in 76% of pancreatic cancer, 74% in hepato-biliary cancer, 39% of gastric cancer.
- 2) The elevated serum levels of CA19-9 was also observed in patient with 40 of chronic pancreatitis.
- 3) The serum levels of the CA19-9 showed no relation to any one of CEA or POA.
- 4) A patient of localized pancreatic cancer with tumor size less than 2 cm in diameter had serum CA19-9 value with normal range.
- 5) The results suggest that this antigen is one of the most useful tumor markers for pancreatic cancer and hepatobiliary cancer.

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BASIC AND CLINICAL STUDIES ON RADIOIMMUNOASSAY OF PANCREATIC SECRETORY TRYPSIN INHIBITOR (PSTI) (PART II) M.Noritake, H.Haga and M.Katsurada. Sapporo District Hospital of Ground Self Defense Force, A.Kihara. School of Allied Health Professions, Sapporo Medical College, Sapporo

Basic evaluation of pancreatic secretory trypsin inhibitor (PSTI) radioimmunoassay was performed with special regard to purity of I-125 PSTI on Shionogi's 0931-S Kit. Three radioactive peaks were observed in case of sephadex G-50 column chromatography of I-125 PSTI. Percentages of the three peaks were 5.4, 86.3 and 8.3%. The second peak of I-125 PSTI in column chromatography had highest binding with anti-PSTI antibody. Two radioactive peaks were observed in paper electrophoresis of I-125 PSTI with Whatman 3MM paper. Only 7.5% of labelled PSTI migrated with human pooled sera. The immunoreactive serum PSTI levels were measured in 40 chronic alcoholics. Significant elevation of PSTI was shown in sera of the patients. About half of the chronic alcoholics had an elevated PSTI level. Moderately close relation was observed between serum PSTI and immunoreactive trypsin. No significant decrease in serum PSTI appeared 3 weeks after abstinence. These results suggested that the estimation of serum PSTI by radioimmunoassay might be useful clinically in search for pathophysiology of pancreatitis.

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CLINICAL VALUE OF SERUM PANCREATIC SECRETORY TRYPSIN INHIBITOR (PSTI) DETERMINATION M.Kato, K.Kataoka, K.Adachi, Y.Yamane, K.Kinugasa, K.Kashima and T.Takino. 3rd Dep.Int.Med. Kyoto Pref.Univ.Med, Kyoto

Serum pancreatic secretory trypsin inhibitor (PSTI) was determined by a radioimmunoassay kit (Sionogi) and its diagnostic value was investigated by comparison with serum amylase and CA 19-9.

- 1) In acute pancreatitis, both serum PSTI and serum amylase were remarkably increased, but the time course of serum PSTI did not always change in parallel to that of serum amylase since serum PSTI maintained high level more longer than serum amylase.
- 2) Mean value of serum PSTI was significantly high in chronic pancreatitis and pancreatic cancer.
- 3) In pancreatic cancer and other malignant tumors, any significant correlation was not noted between serum PSTI and CA 19-9, and abnormality of serum PSTI was more frequently seen than that of CA 19-9.
- 4) Serum PSTI was also elevated in liver cirrhosis, diabetes mellitus and renal failure.

It is concluded that serum PSTI is expected to be not only a new diagnostic parameter of pancreatic diseases but also a tumor marker of pancreatic cancer and other malignant tumors.

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STUDIES ON CA 12-5 IN BODY FLUID AND PLACENTA. M.Hamazu, T.Yamazaki, Y.Ochi, S.Hosoda, Y.Ura, Y.Kajita and T.Hachiya. Shiga Univ.of Med.Sci. and Kyoto Pref.Univ.of Med.

Monoclonal antibodies CA 12-5 is used as tumor marker, especially ovarian and endometrial carcinoma. CA 12-5 activity was also found in normal saliva, placenta and amniotic fluid. Normal saliva contained less than 200 U/ml of CA 12-5 activity. Some similarities in the tissue distribution of CA 12-5 and placental alkaline phosphatase (PAP) are known. We examined the characteristics of both substances. There was no relationship between CA 12-5 activity and PAP activity in serum or body fluid. Large amounts of CA 12-5 activity (1,000 U/wt(g)) and PAP activity (333 U/wt(g)) in the placenta were existed. CA 12-5 activity showed Con A binding (80% of total activity) and 66% activity was perchloric acid soluble. ALP activity showed neither Con A binding nor PCA extraction. CA 12-5 and ALP activity in amniotic fluid was destroyed half and completely, respectively by treatment with 65°C for 10 min. Neuraminidase treatment did not reduce both activities.

When the placenta extract was fractionated on Sepharose 6B, CA 12-5 activity and PAP activity was found in the MW of about 500,000 and 130,000 daltons, respectively. CA 12-5 activity was not neutralized by anti-PAP. From these experiments, CA 12-5 may recognize a glycoprotein with the high MW (about 500,000 daltons).