Ganglioside pattern in liver tissues and distribution of CA 19-9 on thin-layer chromatogram


Gangliosides were isolated from human liver tissues with various liver diseases and specific gangliosides which are capable of binding CA 19-9 antibody were identified on one and two-dimensional thin-layer chromatography using the method of autoradiography.

Ganglioside pattern of normal tissues was the predominance of GM3 and other minor components on thin-layer chromatogram. While, ganglioside patterns of hepatocellular carcinoma and certain type of liver cirrhosis were found to be complicated as compared with those of normal liver. These characteristic features were marked increased amount of GM2 and several unidentified gangliosides. On the study of autoradiography, there were two strong bands which had activity of 125-I CA 19-9 in normal tissue on chromatogram. These bands had only negligible amounts of ganglioside component in the normal tissue. Thus, these findings suggest that normal tissue as well as hepatocellular tumor have a ganglioside component designated as sialylated lacto-fucopentaose II, CA 19-9 and its metabolic pathway.

EVALUATION OF SERUM CA 19-9 IN PATIENTS WITH PANCREATIC AND OTHER GASTROINTESTINAL MALIGNANCIES

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Although many diagnostic methods have been developed, pancreatic disease is difficult to diagnose correctly.

Recently, CA 19-9 was detected as new gastrointestinal tumor-associated antigen, especially as pancreatic cancer.

We have tested serum CA 19-9 of 120 patients with gastrointestinal diseases in our hospital during last one year, and compared the positive rate of each tumor markers.

The reference range of 20 normal adults was less than 5.5 U/ml to 21.5 U/ml (8.7 ± 6.2 U/ml). When serum CA 19-9 level higher than 30 U/ml were regarded as positive, it was found predominantly in sera of gastrointestinal malignancies, especially in pancreatic cancer.

We thought that serum CA 19-9 was the most reliable tumor marker with high sensitivity and specificity for diagnosis of pancreatic and biliary tract cancer.