

## Radioimmunodetection of cancer of gastrointestinal tract and liver metastasis with I-131 anti-CEA and I-131 anti-CA19-9 monoclonal antibody cocktail (IMACIS-1)

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We evaluated the intravenous infusion of a cocktail of I-131 anti-CEA and anti-CA19-9 monoclonal antibody F(ab')<sub>2</sub> (IMACIS-1) in patients with gastrointestinal neoplasm and liver metastases in order to assess its efficacy in detecting the presence of cancer. Seven patients with primary or recurrent gastrointestinal cancer in whom liver metastases were also detected were studied. Accumulation of radioactivity in the primary tumor was seen in only one patient. Visualization of the liver metastases was achieved in all patients. Thus detection of liver metastasis was better than in primary or recurrent tumors. While tumor visualization was most often seen in the 3 day image, optimal visualization of the tumor was seen at 5-7 days. There was no correlation between the serum concentration of CEA or CA19-9 and the visualization of tumors. Serum kinetics of I-131 IMACIS-1 showed biexponential components with a 1st phase T<sub>1/2</sub> of 5.0 hours and 2nd phase T<sub>1/2</sub> of 34.7 hours. The mean whole body (I-131) half-life determined from the whole-body scans was 1.95 days. The mean urinary excretion of I-131 in 7 days was 85%. This value agreed closely with total radioactivity retention detected by scanning. This series of studies demonstrated the potential utility of a cocktail of antibodies consisting of an anti-CEA and an anti-CA19-9 monoclonal F(ab')<sub>2</sub>.

**Key words:** radioimmunodetection, monoclonal antibody, IMACIS-1