Turtle Healing Band Clinic

"*Personalized Care for Optimal Health*"

AMAS Test
("Anti-Malignin Antibody in Serum")

Detection of cancer before the presence of any signs or symptoms by means of a simple blood test is now available. This milestone signals the beginning of a new molecular approach to cancer—one that need not wait for billions of cancer cells to form a lump which can be felt or X-rayed before cancer is diagnosed and treated. The test is called AMAS ("Anti-Malignin Antibody in Serum"). The elevation in the concentration of this antibody is associated at high accuracy with the occurrence of cancer cells in the body regardless of the cell type or location. (AMAS review published by the National Cancer Institute, J. Cell Biochem, 19:172-185, 1994).

As an example, one patient had been followed with AMAS tests every 2 months because he was at increased risk due to previous colon cancer. The AMAS concentration increased from normal values, through borderline to markedly elevated values. As a result, other tests were done to localize the cancer. Sigmoidoscopy did not show recurrent colon cancer. The prostatic specific antigen (PSA) was then found to be markedly elevated. Needle biopsy of the prostate gland revealed cancer. Hormonal treatment successfully reduced both the AMAS and the PSA to normal values. This method represents histopathology-confirmed symptomatic cancer diagnosis and treatment by molecular means that is now available.

At the International Society of Preventive Oncology in Nice, France, Drs. Samuel and Elenore Bogoch reported on a study of 82 breast cancer patients who were followed with repeated AMAS tests after cancer surgery performed one to 30 years previously (Cancer Detection and Prevention, 20:507-508, 1996). 67 of these patients were asymptomatic and in remission—the AMAS test was normal in all 67! On the other hand, 15 of these patients had a persistence or recurrence of their cancer; part of a larger blind study of AMAS in 1,175 cases of benign and malignant breast disorders, and 3,078 healthy normal controls.

All of the data from both Bogoch et al., and from the independent study performed by SmithKline Laboratories, support the fact that AMA ("Anti-Malignin Antibody") in blood serum is elevated almost regardless of the site or cell type of the malignancy. This is because AMA is a general transformation antibody, not just for one type of cancer. For serum determined within 24 hours of being drawn, the false-positive and false-negative rates are less than 1% (specificity and sensitivity greater than 99%). For stored sera false positives are 5% and false negatives 7% (3,315 double-blind tests of patients and controls).

AMA is the antibody to Malignin, a 10,000 Dalton polypeptide which has been found to be present in most malignant cells regardless of cell type or location. Unlike tests such as CEA, which measure less well-defined antigens whose serum levels tend to be inconstant but elevated late in the disease, the AMAS test measures a well-defined antibody whose serum levels rise early in the course of the disease. In some cases, the AMAS test has been positive (elevated) early (i.e., 1 to

19 months before clinical detection). On the other hand, since antibody failure often occurs late in malignancy, elevated antibody is then no longer available as evidence of the presence of antigen. Therefore, late in the disease, the AMAS test cannot be used as a diagnostic aid although it may still be a useful tool for monitoring the disease.

A common clinical situation involves signs or symptoms suggesting a disorder which may or may not be malignant. While neither AMAS nor any other clinical laboratory test can be itself answer this question, AMAS test results may help the physician in the diagnostic process. The double-blind clinical studies in the graph above include non-cancer control groups and malignancies of the breast, lung, and brain as well as melanomas, lymphomas, leukemias, and colorectal malignancies. Also included are smaller numbers of malignancies of the larynx, uterus, cervix, ovary, anus, stomach, esophagus, prostate, bladder, urethra, kidney, testes, thyroid, and skin and fibrosarcoma, leiomyosarcoma, osteogenic sarcoma, rhabdomyosarcoma, mesothelioma, liposarcoma and hemangioblastoma.

Cancer of the cervix of the uterus is one of the few situations where the cancer can actually be shown in humans via microscopic examination in the PAP smear to develop from the earliest premalignant stages to a frankly malignant state. Periodically repeated AMAS tests are now being used in previous cancer, in smokers, or in people over 50 years of age. AMAS is approved by Medicare. Further, The American Cancer Society states that as many as 35% of all cancer deaths might be saved by early detection. If feeling a lump or observing an unusual shadow on a mammogram, followed by early treatment, can lead to the saving of 35% then catching cancer even earlier should provide further improvement in survival.

Both monitoring data and the retrospective survival study of 511 cancer patients have shown that the AMAS test may be useful in indicating disease progress and prognosis. In this situation, AMAS is a test in all types of cancer both to monitor remission after treatment, and to look for early signs of recurrence. Thus, in known cancer patients, when the immune response is good as evidenced by high antibody levels, the prognosis is good; and when the antibody level falls, the prognosis is poor.

AMA is the first general cancer antibody found to relate to patient survival. Thus, the test may be useful as an adjunct to standard (sometimes less accurate) staging information such as the spread of malignancy beyond the capsule of the primary organ and the presence of metastases in lymph nodes, or general symptoms such as anemia, weight loss, and fatigue. AMA is elevated in 93-100% of cases in which active non-terminal malignancy is the clinicopathological diagnosis. Overall asymptomatic (“false”) positives are 5% in sera kept frozen more than 24 hours, but less than 1% in serum determined within 24 hours after blood is drawn. AMA is normal in 96% of cancer patients who no longer have evidence of disease.

The low false-positive and false-negative rates (<1% on repeat determinations of 24-hour serum) have permitted successful screening in selected high-risk populations, as in chemical workers and in the preclinical detection of cancer in 2.3% of medical-surgical cases. However, the efficacy of screening in larger normal populations has yet to be determined. A normal AMA level can occur in non-cancer, in terminal cancer, and in successfully treated cancer in which there is no further evidence of disease. Clinical status must be used to distinguish these states. As in all clinical laboratory tests, the AMAS Test is not by itself diagnostic of the presence or absence of disease, and its results can only be assessed as an aid to diagnosis, detection or monitoring of disease in relation to the history, medical signs and symptoms and the overall condition of the patient.