Neurokinin A Levels Predict Survival in Patients with Well Differentiated Small Bowel Neuroendocrine Tumors

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BACKGROUND:
Recent European investigations demonstrate that persistently elevated (> 50 pg/ml) plasma neurokinin A (NKA) levels are associated with a poor short term survival in patients with midgut neuroendocrine tumors (NETS).

RESULTS:
Group one patients (n=145) have not yet reached their median survival and have six, twelve and twenty-four month survival rates of 99%, 98%, 93%, respectively. Thirteen of fourteen (93%) of group two patients are currently alive. Group three patients (n=24) have a median survival of 20 months, and six, twelve, and twenty-four month survival rates of 78%, 63%, and 49%, respectively. The difference in the median survival of Group 1 vs. Group 3 was highly statistically significant (p<.0001).

HYPOTHESIS:
We hypothesized that US patients with persistently elevated NKA levels (> 50 pg/ml) will also have a poor short term survival.

METHODS:
Serial plasma NKA levels were collected from the charts of 183 patients with midgut NETS. Patients were grouped according to their NKA values, and median, six, twelve, and twenty-four month survival rates were calculated.

- Group one: NKA levels < 50 pg/ml
- Group two: At one point had NKA levels >50 pg/ml but subsequently fell to < 50 pg/ml
- Group three: NKA values currently >50 pg/ml

CONCLUSION:
Patients with well-differentiated, midgut NETs with a NKA >50 pg/ml require an immediate change of therapy in an effort to reduce their NKA levels to <50 pg/ml. Patients whose NKA levels fall below the non-critical level (50 pg/ml) after therapy should be followed closely.