B-18

Identifying the relationship between neuroendocrine tumors (NET) and glutamic acid decarboxylase 65 (GAD65) antibody.

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BACKGROUND

Glutamic acid decarboxylase 65-kilodalton isoform (GAD65) antibody is a known to be present in inhibitory interneurons and pancreatic islet β-cells. Arino et al suggests that high levels of GAD65 present with neurological symptoms should prompt physicians to screen patients for occult cancer. The literature also suggests high GAD65 antibodies have been associated with various malignancies; although large studies are lacking. This research focuses on identifying a relationship, if any, between GAD65 antibody and NETs.

METHODS

The Renown Enterprise Data and Analytics Department at Renown Health identified the number of patients with positive lab results for GAD65 antibody, number of patients diagnosed with a NET, number of patients with positive GAD65 antibody lab results and diagnosed with a NET, and number of patients with negative GAD65 antibody lab results and diagnosed with a NET from 2010 to present. Patients diagnosed with a NET were identified through ICD-10 (C25.4, C7A) and ICD9 (157) codes corresponding to NETs. Positive and negative lab results were identified through GAD65 antibody lab results with a positive value of >5.0 IU/ml.

RESULTS

From 2010 to present, 1,157 patients were diagnosed with a NET. There were a total of 749 patients who had positive lab results for GAD65 antibody. Only 44 patients had both a diagnosis of NET and a GAD65 antibody level tested. One patient had both a neuroendocrine tumor diagnosis and a positive GAD65 antibody lab result and 43 neuroendocrine patients had a negative GAD65 lab result.

CONCLUSIONS

Our analysis does not support a relationship between the GAD65 antibody and a NET diagnosis. Only one patient of the 44 NET patients included in the study was found to have a NET diagnosis and test positive for the GAD65 antibody. However, of the 1,157 patients diagnosed with a NET only 44 were tested for the GAD65 antibody. A major limitation of the study is a lack of site specific data analysis. This limitation and lack of published data warrant further study into this relationship, including site specific data.

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