Anti-Yo Positive Paraneoplastic Cerebellar Syndrome in Recurrent Ovarian Carcinoma: A Unique Case to a Rare Phenomenon.

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Anti-Yo Positive Paraneoplastic Cerebellar Syndrome in Recurrent Ovarian Carcinoma: A Unique Case to a Rare Phenomenon

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INTRODUCTION

- Paraneoplastic neurological syndromes are an assorted group of symptoms that occur in 1% of all malignancies through peripherally stimulated immunological reactions stemming from neoplastic-associated metabolic and hormonal aberrancies.[1]
- A rare but fatal subset of this tumor-induced phenomenon is paraneoplastic cerebellar degeneration (PCD). With nearly 30 different antibodies associated with PCD, the most common subtype is the anti-Yo antibody (anti-Purkinje cell cytoplasmic antibody) which is related to nearly 50% of cases.[2]
- Anti-Yo PCD is exceptionally rare, with literature demonstrating anti-Yo positivity in 2.3% of ovarian cancer patients, with only 12% of these subjects demonstrating PCD.[2,3]
- PCD is characterized by the progressive development of severely disabling symptoms over a few weeks.[3] The neurological symptoms of PCD typically precede the clinical diagnosis of cancer.[4]
- We present an extraordinarily unique case of PCD developing 12 years after the initial diagnosis of ovarian cancer.

CASE PRESENTATION

- An 81-year-old female with recurrent stage IIIC Ovarian cancer s/p chemotherapy with docetaxel and carboplatin presented with intractable nausea and vomiting.
- She developed these symptoms shortly after her first dose of niraparib, which was initiated as salvage therapy. Multiple antiemetics were unsuccessful. She subsequently developed right hand tremor, dysarthria, ataxia and diplopia. Levetiracteam, valproic acid, risperidone and clonazepam showed limited to no benefit for these involuntary movements.
- It was initially suspected her symptoms were an acute dystonic reaction related to multiple antiepileptic medications.
- MRI brain revealed multiple nonspecific hyperintense lesions in the white matter along periventricular and subcortical distribution.
- Diagnostic testing including an EEG and lumbar puncture were negative for causal agents.
- A panel of tumor markers revealed positive anti-Yo antibody, confirming paraneoplastic etiology.
- Given her intractable symptoms and poor prognosis, she transitioned to comfort measures and expired shortly after discharge to hospice.

DISCUSSION

- The majority of PCD cases in literature demonstrate onset prior to cancer diagnosis. To our knowledge, only three other cases have encountered late-onset PCD in ovarian cancer, with those reports describing onset one year, two years, and six years after documented history of ovarian carcinoma.[5,6,7,8]
- We demonstrate a unique case of PCD precipitating twelve years after an initial diagnosis of ovarian cancer.

References:

1. Rees JH. Paraneoplastic syndromes: when to suspect, how to confirm, and how to manage. *Journal of Neurology, Neurosurgery & Psychiatry.* 2004;75(suppl_2):ii43-ii50. doi:10.1136/jnnp.2004.040378.
2. Venkatraman A, Opal P. Paraneoplastic cerebellar degeneration with anti-Yo antibodies - a review. *Annals of Clinical and Translational Neurology.* 2016;3(8):655-663. doi:10.1002/acn3.328.
3. De boysson H, Arquizan C, Guillevin L, Pagnoux C. Rituximab for primary angiitis of the central nervous system: report of 2 patients from the French COVAC cohort and review of the literature. *J Rheumatol.* 2013;40(12):2102-3.
4. Rojas I, Graus F, Keime-Guibert F, et al. Long-term clinical outcome of paraneoplastic cerebellar degeneration and anti-Yo antibodies. *Neurology.* 2000;55(5):713-715. doi:10.1212/wnl.55.5.713.
5. Greenberg H. Paraneoplastic cerebellar degeneration. *Journal of Neuro-Oncology.* 1984;2(4). doi:10.1007/bf00178121.
6. Goldstein BH, Birk CL, Houten MV, et al. Ovarian cancer and late onset paraneoplastic cerebellar degeneration. *Archives of Gynecology and Obstetrics.* 2008;280(1):99-101. doi:10.1007/s00404-008-0822-1.
7. Bonakis A, Papageorgiou SG, Mandellos D, Galani E, Kalfakis N. Acute onset paraneoplastic cerebellar degeneration. *Journal of Neuro-Oncology.* 2007;84(3):329-330. doi:10.1007/s11060-007-9368-5.
8. Russo A. Paraneoplastic cerebellar degeneration associated with ovarian cancer. Oncology Letters. November 2012:681-683. doi:10.3892/ol.2012.1016.