Opsonclus as a suspected paraneoplastic syndrome of endometrial cancer

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Abstract

Paraneoplastic opsoclonus is well described in neuroblastoma. In the adult oncologic population, opsoclonus is seen usually within the context of opsoclonus–myoclonus ataxia and is associated most strongly with small-cell lung cancer. Patients with paraneoplastic opsoclonus are often seronegative. Patients with gynecologic malignancies are known to be predisposed to paraneoplastic syndromes; however, we describe the first case of paraneoplastic opsoclonus in association with endometrial cancer.

Case Report

A 65-year-old woman presented with several months of increasing abdominal girth. The clinical examination showed ascites, and abdominal imaging revealed omental caking. Cytology tests of paracentesis fluid were negative, but a biopsy of a peritoneal nodule revealed metastatic serous carcinoma of Mullerian origin. CA-125 was measured at 171 U/mL. She was referred to the Mayo Clinic, where she had an exploratory laparotomy to remove the omentum appeared enlarged and inflamed; there was no evidence of carcinomatosis but omental biopsies revealed metastatic serous carcinoma. One pelvic lymph node, of 53 pelvic and seven para-aortic nodes sampled, was consistent with stage IV endometrial cancer. CA-125 was measured at 171 U/mL. She was referred to the Mayo Clinic, where she had an exploratory laparotomy to remove the omentum that quickly rendered her unable to walk.

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two doses of carboplatin/paclitaxel chemotherapy, with a decline in her CA-125 to 10 U/mL, the patient had improved to the point that her opso-
clonus was only barely visible during saccadic testing and she was able to rise from a wheel-
chair and climb on to an examination table under her own power. Five months later, she had complete resolution of her opso-
clonus and ataxia, ambulating without a cane or walker.

Discussion

The primary goal in treating paraneoplastic autoimmunity is to remove the inciting anti-
gen. While OMS often can be a monophasic process outside of the context of an associated malignancy, spontaneous remission of para-
neoplastic neurologic disorders is uncommon; complete or partial neurologic recovery seems to occur only with treatment of the underlying tumor. Although the serum paraneoplastic autoantibody evaluation was negative for previ-
ously described markers of cancer-associated autoimmunity, as has been true in many docu-
mented reports, it nonetheless remains likely that this patient’s condition was immunologic-
ally mediated. It is postulated that opso-
clonus is caused by interference with premotor omni-
pause neurons in the brainstem but the pre-
cise pathophysiology, especially as it might relate to an autoimmune mechanism, is

unclear. Rapid improvement in immunologically mediated nervous system disorders typically is associated with antibody-mediated phe-
nomena, especially for neuromuscular disor-
ders. For central nervous system disease, the mechanism for antibody-mediated pathology and its reversibility with therapy has not been clearly delineated.

To our knowledge, this is the first report of opso-
clonus in association with endometrial cancer. There are no established markers to identify adult patients with paraneoplastic opso-
clonus–myoclonus but the patient’s neuro-
logic symptoms rapidly abated and ultimately resolved altogether following surgical and chemotherapeutic interventions for her stage IV disease. The temporal alignment between the improvement in her neurologic function and the treatment of her cancer strongly suggests a paraneoplastic phenomenon. A review of the English-language literature reveals three cases of OMS in association with ovarian neo-
plasms, and all three patients’ neurologic symp-
toms were ameliorated by anti-neoplastic ther-
apy: a 15-year-old with a mature teratoma and a
negative paraneoplastic panel, whose symp-
toms improved after surgery;10 a 45-year-old with epithelial ovarian carcinoma and negative PCA-1, ANNA-1, and ANNA-2 antibodies, whose neurologic status improved after surgery and chemotherapy;11 and a 58-year-old with anaplastic adenocarcinoma of the ovarian duct and seropositivity for ANNA-2, whose symptoms improved after surgery, although she also received steroids.12 Taken together, our case plus these published accounts would indicate that some antigen(s) within the Müllerian epithelium can incite an immune response that may elicit a reversible targeted dysfunction of an inhibitory component of the brainstem oculomotor system. To date, however, there is no identifiable common denominator among the various gynecologic malignancies and para-
neoplastic neurologic disorders.

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