ANTY-YO ANTIBODIES PARANEOPLASTIC CEREBELLAR DEGENERATION ASSOCIATED WITH OVARIAN CANCER: A CASE REPORT

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Objective: to demonstrate that paraneoplastic neurologycal syndromes (PNS) can antedate clinical manifestation of ovarian cancer and enable its diagnosis at an early stage.

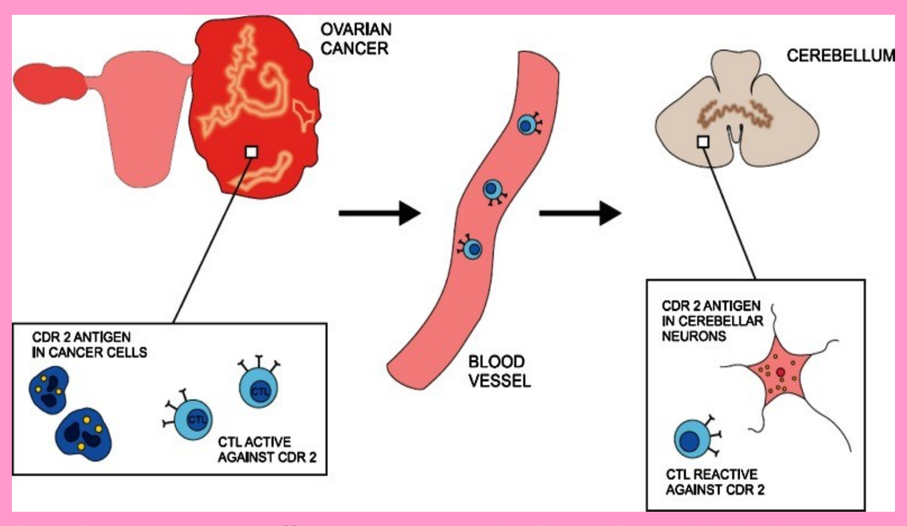
Materials and Methods: we report the case of a 49 years old woman who was admitted to our Neurological Unit in August 2013 for subacute onset of speech disorder (dysarthria), incoordination of movements, balance and gait disturbances (ataxia) and altered ocular movements (nystagmus).
Brain MRI: negative for any mass lesion, or signs of cerebellar atrophy, stroke or cerebellitis.
CSF analysis: presence of 4 oligoclonals bands.
CA-125: incresed (72.29 UI/ml).
Anti–Yo onconeuronal antibodies: high titer in CSF and blood.
Chest and abdomen contrast-enhanced CT scan: negative for any malignancy.
Breast echography: negative for any malignancy.
Abdominal and pelvic MRI: a small ovaric cystic mass of undetermined significance.
Whole body PET/CT scan: no evidence of abnormal hot spots.

Results: one month later the neurological symptoms were significantly worse and the patient was unable to walk or talk, and developed severe dysphagia.
Treatment with IVIg (0.5 g/kg/day for 5 days) and two consecutives plasma exchanges was ineffective. The patient refused any assistance and was discharged.
In March 2014 a whole-body PET/CT scan revealed a massive peritoneal invasion, typical for advanced ovarian cancer.

Conclusions: Paraneoplastic Cerebellar Degeneration (PDC) is an heterogeneous group of disorders characterized by subacute cerebellar ataxia, specific tumor types and often associated antineuronal antibodies. Anti – Yo antibody seropositive status suggest ovarian cancer, breast cancer or other gynecologic malignancy. If the tumor is not identificated an obligation for systematic screening exist. Surgery and immunomodulatory treatment are considered as the most important management among such a group of patients.

Paraneoplastic antibodies in PCD

Antibody	*Clinical Syndromes*	*Immunohistochemistry*	*Western blot cerebellar extract*	*Gene*	*Associated Cancer*
Anti-Yo	**cerebellar ataxia**	**cytoplsm of Purkinjie cells, large brainstem neurons**	**34, 52, 62KDa**	**cdr34, cdr62-1,-2**	**ovarian, breast**
Anti-Hu	cerebellar ataxia, PEM/SN	nuclei of all neurons, nucleolar sparing	35-40 kDa	HuD, HuC, Hel-N1	SCLC
Anti-Ri NOVA-2	cerebellar ataxia, OM gynecological, SCLC	nuclei of all neurons	55and80KDa	NOVA-1	Breast,
Anti-Tr	cerebellar ataxia	cytoplasm and dendrities of Purkinjie cells	-	unknown	Hodgkin's lymphoma
Anti-VGCC	cerebellar ataxia LEMS	-	-	CACNA1A	SCLC(60%)
Anti Ma	cerebellar ataxia brainstem dysfunction	nuclei and cytoplasm of neurons	37 and 40 Kda	Ma 1-5	Many
Anti Ta/Ma2	Limbic Encephalopathy, Cerebellar ataxia	nuclei and cytoplasm of neurons	40 Kda	Ma2	Testis



Ovarian cancer cell expresses cdr 2 antigen that triggers immune response against malignancy. The same cdr2 antigen is a intracellular protein in Purkinje cell in cerebellum. As a result, cytotoxic T lymphocytes (CTL) cross-react against nervous tissue. This mechanism represents the prevailing view on the pathogenesis of paraneoplastic cerebellar degeneration (PCD) related to ovarian cancer. The hallmarks of immune reaction, however, are not detected in all patients

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XLV CONGRESSO NAZIONALE 10-13 OTTOBRE 2015 – GENOVA