

## **Immune response against neural antigens and paraneoplastic neurological syndromes in endometrial cancer patients**

**K. Poplawska-Domaszewicz<sup>1</sup>, S. Michalak<sup>3</sup>, D. Szpurek<sup>2</sup>, A. Paluch<sup>2</sup>, S. Sajdak<sup>2</sup>, W. Kozubski<sup>1</sup>**

<sup>1</sup>*Department of Neurology Poznan University of Medical Sciences, Poznan University of Medical Sciences, Poland*

<sup>2</sup>*Department of Gynecological Surgery Poznan University of Medical Sciences, Poznan University of Medical Sciences, Poland*

<sup>3</sup>*Neuroimmunological Unit, Polish Academy of Sciences, Poznan, Poland, Department of Neurochemistry and Neuropathology Poznan University of Medical Sciences, Poznan, Poland, Poland*

**Aim of paper:** The purpose of this study was to analyze the spectrum of paraneoplastic neurological syndromes and onconeural/antineural antibodies and antibodies against nucleoplasm in women with endometrial cancer and breast cancer. **Materials and methods:** The study included 75 patients with endometrial cancer and 22 patients with breast cancer. Onconeural, antineural antibodies and antibodies against nucleoplasm in serum were assessed with the use of indirect immunofluorescence. Western blotting was performed as a confirmation test for the presence of onconeural antibodies in patient's sera. **Results:** Antineural antibodies (12 patients, 16,1%) and antibodies against nucleoplasm (14 patients, 18, 7%) were the most frequent. Onconeural antibodies were detected in two cases (2,6%). The neuropathy/polyneuropathy predominate in endometrial cancer patients. Autoantibodies were present in 16 patients with breast cancer and neurological symptoms. Sensory neuropathy and subacute cerebellar syndrome were the most frequent. The presence of antineural, onconeuroanl or antibodies against nucleoplasm antigens did not depended on grading or staging of endometrial cancer. All antibodies were the most frequent among endometrial cancer patients with low grading (mailny in the course of endometrial adenocarcinoma). Neurological deficit is associated with low clinical stage and high grade. **Conclusion:** The detection of antineural antibodies and anti-nucleosome antibodies in a woman with peripheral nervous system deficit should be an indication for gynecological neoplasm screening. In a patient with already diagnosed endometrial cancer and coexisting neuropathy / polyneuropathy the detection of autoantibodies can be helpful in the decision on immunomodulating treatment.