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Abstracts

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On physical examination, she had purpuric macular and papular spots, in addition to large confluent plaques on both lower limb. Laboratorial exams showed mild leukocytosis (13,600/mm³) without deviation and CRP of 0.90 mg/L. A biopsy of an irregular fragment of skin on the right lower limb was performed, which showed infiltration inflammation compatible with leukocytoclastic vasculitis.

Conclusion: In view of the condition, the patient was started on prednisone at a daily dose of 60 mg in the morning for 10 days, with progressive weaning after this period. This report suggests the possibility that the COVID-19 vaccine has the potential to induce factors for leukocytoclastic vasculitis.

E-PS-14-004

Features of cerebral injury in papillomavirus infection in HIV-positive patients

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Background & objectives: Multifocal leukoencephalopathy (MLP) is often observed in HIV-infected individuals. The aim of our work was to identify the features of brain injury in patients with polyomavirus infection with the background of HIV infection of the IV clinical stage.

Methods: For the morphological study, sectional material (brain) of HIV-positive patients with PML and lifetime detection of JCV and BKV in the cerebrospinal fluid was used with instrumental signs of PML. *T. gondii* was detected in 28.6% of cases, EBV in 42.9% of cases, JCV was detected in 14.3% of cases, and BKV was detected in 14.3% of cases.

Results: Vasculitis of the microvasculature with the formation of fibrin thrombi has been revealed. There is a perivascular accumulation of cells of inflammatory origin, cerebral oedema, and the appearance of microcalcifications. 2-3 mm zones of demyelinated lesions have been revealed with a tendency to merge. Dystrophic changes and demyelination are more developed in the deep areas of the white matter. Small areas of demyelination are observed predominantly in the juxtacortical/subcortical white matter and in cortical areas of the brain. Most demyelinating lesions are present locally at the corticomedullary junction, and demyelinating lesions extend into deeper layers of the white matter and are seen in relatively limited areas.

Conclusion: The presence of multiple foci in the brain substance, according to neuroimaging methods, may be due to the presence of a number of etiological factors, namely: JCV, BKV, EBV, *T. gondii*, and *C. neoformans*, which requires obligatory laboratory confirmation. Morphological changes in the brain in PML caused by JCV and BKV are characterized by zones of demyelinated lesions 2-3 mm in size with a tendency to confluent, with dystrophic changes mainly in the juxtacortical/subcortical white matter.

E-PS-14-005

A case of generalised accumulation of histiocytes - histiocytic neoplasms or result of immunosuppression?

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Background & objectives: Histiocytic disorders and neoplasms are rare and may have overlapping features. We present a patient diagnosed with a generalized accumulation of histiocytes after a duodenal biopsy, bone marrow biopsy and dissection of enlarged lymph nodes in the axillary region.

Methods: The hypotrophic patient presented herself to the Emergency Medicine Service because of weakness and fever. The patient had nausea, vomiting and periumbilical and epigastric pain with band-like

spreading. Duodenoscopy revealed an oedematous, mildly hyperaemic mucosa of the bulb and post-bulbar villi that were reduced, so the clinician suspected coeliac disease. Later, lymph node dissection and bone marrow biopsy were performed.

Results: Histologically, duodenal mucosa was with blunted, expanded villi and lamina propria was massively infiltrated by macrophages and focally by granulocytes. Lymph nodes had extremely enlarged sinuses, which were filled with both epithelioid and spindle-shaped histiocytes, without necrosis. The histological picture was not specific so Rosai-Dorfman's disease, Whipple's disease, and mycobacterial infection were considered as differential diagnoses. Also, the bone marrow was more cellular and haematopoiesis was suppressed by abundant infiltration with histiocytes. Histochemical Ziehl-Neelsen staining showed acid-resistant bacteria within the cytoplasm of histiocytes. Since infection with *Mycobacterium avium* complex occurs almost exclusively in immunocompromised patients, patient undergoes serological testing for HIV. The patient was serological ELISA HIV Ag/At positive.

Conclusion: *Mycobacterium avium* complex is an aerobic opportunistic bacterium that usually causes small bowel disease only in immunosuppressed (CD4+ < 100/mm³) patients, usually as part of a disseminated infection with general symptoms (fever, weight loss, thrombocytopenia, enlarged lymph nodes, hepatosplenomegaly, diarrhoea, malabsorption). Morphologic features along with immunophenotype and pattern of involvement should be taken together with clinical and radiographic findings to establish a unique diagnosis. The described case shows how the non-tumour pathohistological diagnosis can lead to an appropriate clinical diagnosis.

E-PS-14-006

Proliferation of smooth muscle cells in the arterial walls of the lungs of the newborn and of the placenta in a case of early neonatal death in a woman who suffered from COVID-19 during pregnancy

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Background & objectives: COVID-19 is associated with increased neonatal and maternal morbidity and mortality. Numerous studies demonstrated remodelling of placental arteries in parturients who had COVID-19 during pregnancy. The effects of COVID-19 on the intrauterine development of foetal vessels are not completely understood.

Methods: We described vascular changes in a case of early neonatal death in the lung tissues of the newborn and in the placenta of a woman who suffered COVID-19 at 25th week of pregnancy (PCR confirmed). Placenta and post-mortem lung tissues of the newborn were studied with light microscopy and immunohistochemistry (alpha-smooth muscle actin) and morphometry.

Results: Morphometry analysis included arterial wall thickness and arterial lumen ratio (lumen area/artery area). For newborn lung arteries of 30-50µm diameter, the average wall thickness was 8,34 µm (SD 2,29 µm). Average thickness of the arterial walls of the placenta was 18,06 µm (SD 2,88). Average lumen area index of newborn lung arterial walls was 20,84% (SD 6,1%).

Median lumen area index of placental arteries was 14,98% (SD 7,15%). These indicators coincide with the data of our previous studies showing the changes in the walls of the pulmonary vessels in adult patients who died of COVID-19 as well as the thickening of the walls of placental vessels.

Conclusion: Infection with SARS-CoV-2 leads to systemic damage to the vascular system. COVID-19 during pregnancy can be accompanied by remodelling of both placental arteries and foetal pulmonary arteries. These events may be responsible for the mortality of newborns whose mothers had COVID-19 during pregnancy.