

Morphological and immunohistochemical characteristics of the lungs with a combination of coronavirus infection and sarcoidosis in a patient

Guryanova E.A., Vorobeva O.V., Lastochkina D.A. Lastochkin A.V.

Chuvash State University named after I. N. Ulyanov,

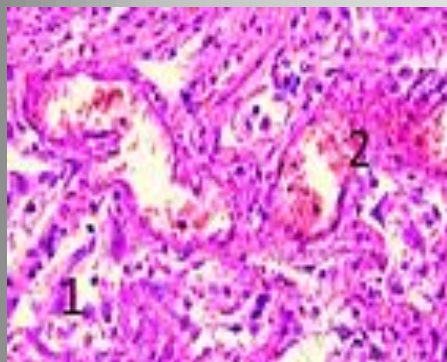
Cheboksary, Russia



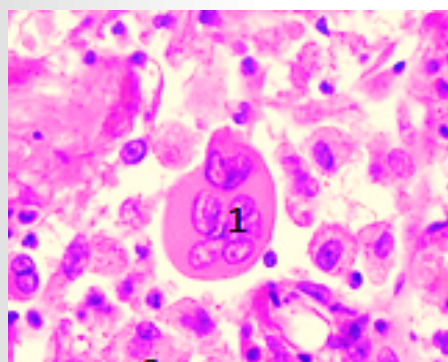
The coronavirus type 2 SARS-CoV-2 continues to spread, affecting the health and lives of millions of people around the world. In persons with concomitant diseases, it progresses to pneumonia, acute respiratory distress syndrome, and multiple organ failure.

Methods. We present 2 clinical cases of COVID-19 infection associated with pulmonary sarcoidosis and coronary artery disease in patients aged 44 and 63 years. Both patients were not connected to Intermittent forced ventilation apparatus. A histopathological and immunohistochemical study of tissue samples of the lungs and heart was carried out.

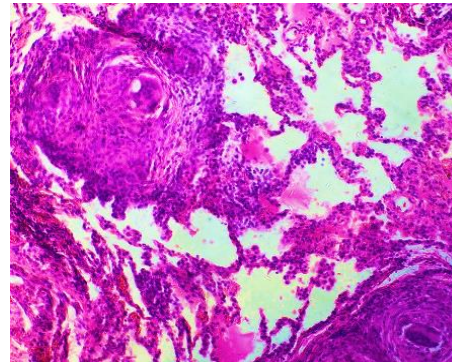
Results. Histological examination of lung samples shows: totally desquamated epithelium, hemorrhagic exudate (1), and a few multinucleated cells were determined in the lumen of all alveoli (2). During histological examination, epithelioid-cellular granulomas ranging in size from 2 to 8 mm, consisting of epithelioid, giant cells and lymphocytes, were located in the lungs. Granulomas with a proliferative component, with signs of coagulation necrosis and with areas of hemorrhage were determined (3). Revealed giant cells with cytoplasmic inclusions - asteroid bodies and Schaumann's little bodies. In the immunohistochemical study, lymphocytes were detected in the central sections of the granulomas CD-4, and CD-8 lymphocytes were found in the peripheral zone. In bifurcated lymph nodes 17-24 mm in size, granulomas were detected without signs of caseous necrosis. In the heart, hypertrophy of the left sections was determined. Histological examination revealed fragmentation and focal hypertrophy of cardiomyocytes, small focal perivascular sclerosis (4).



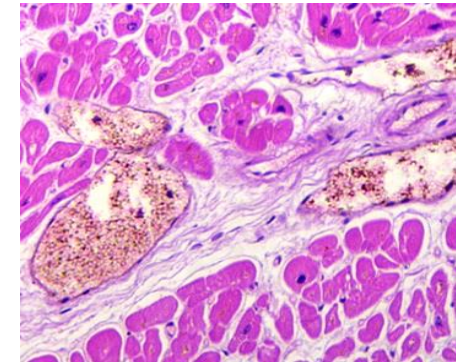
1



2



3



4

staining with hematoxylin eosin, x 900

Conclusion. Pulmonary sarcoidosis and coronary heart disease have aggravated the course of bilateral viral pneumonia when infected with the new coronavirus infection Covid-19. Comorbidities in Covid-19 patients reduce the chances of recovery.