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CASUISTIC PAPER

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Mixed adenocarcinoma-neuroendocrine cancer – a case report

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ABSTRACT

Introduction. Mixed adenocarcinoma-neuroendocrine cancer (MANEC) is a rare cancer that is characterized by aggressive course and poor prognosis.

Aim. A case report and literature review.

Description of the case. This article presents the case of a 63-year-old patient who was hospitalized due to the occurrence of neurological symptoms such as nausea, dizziness and headache as well as double vision and numbness of the hands. Suspected ischemic stroke, meningitis with bacterial etiology or brainstem pathology**.**

Conclusion. MANEC composed of large neuroendocrine cells have better survival and clinical behavior than patients with small, intermediate or mixed large and intermediate cells.

Keywords. central nervous system, MANEC**,** mixed adenocarcinoma-neuroendocrine cancer

Introduction

Mixed adenocarcinoma-neuroendocrine (MANEC) is a rare change, which is primarily located in the gastrointestinal tract and bile ducts.[1] It is characterized by two ways: epithelial and neuroendocrine, each of which must constitute a minimum of 30% of weaving of change.[1] This unit was introduced to the classification of neuroendocrine tumors by WHO (World Health Organization) in 2010.[2-4] The majority of cancers in this group have an aggressive course and thus a poor prognosis.[2-4] In addition, MANEC also has a large potential to provide distant metastases. This feature is primarily attributed to the neuroendocrine component.[5] Clinical symptoms are non-specific and mainly result from tumor mass or the ability of the neuroendocrine component to produce endogenous active substances.[4] Standard medical treatment includes total resection of the lesion and complementary chemotherapy.[1-8]

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Aim

In this paper, we present one unusual case of MANEC. The pathophysiological specimen confirmed the presence of malignant cells.

Description of the case

A 63-year-old patient came to the Admission Room because of severe dizziness, headache, nausea, double vision and numbness in his hands. He was admitted to the Department of Neurology. From the interview it was known that these ailments appeared the day before. In addition, the patient was previously hospitalized in the Department of Laryngology in connection with deafness of the right ear and deep hearing of the left ear. Extensive diagnostic imaging of the central nervous system was performed – MRI of the brain, angio-CT of the head and UDP of the intracerebral arteries. He was never treated chronically and did not report allergies or drug intolerances.

At the time of admission, significantly increased blood pressure (170/110 mmHg) and tachycardia (110/min) were observed. In the neurological examination, among other things, it was found that the patient was conscious, but restless, he had a dia-tellic speech, palatal reflexes were present, and presented bilateral features of nerve injury VII. In the CT scan of the head ordered at admission the hypodense focus in the left cerebellar hemisphere and small painting cavities at the level of subcortical nuclei were described. In the cerebrospinal fluid found increased cellularity, reduced glucose levels and elevated protein levels. lactic acid and chlorides. Ceftazidime, metronidazole, acyclovir, dexamethasone, mannitol, enoxaparin, furosemidum, atorvastatin, perindopril, diazepam and acetylsalicylic acid were used in the treatment. On the second day after admission, the patient's condition deteriorated rapidly, circulatory arrest was stopped, cardiopulmonary resuscitation was successfully performed, but soon the cardiac arrest was resumed and, despite a prolonged resuscitation action, the circulation was not restored.

Results

The whole picture of the autopsies was the reason for the diagnosis of MANEC type of cancer with spreading mainly to meninges and lungs. Figures 1, 2 and 3 show infiltrates of signaling cells in spinal cord cerebellum plains. Figure 4 presents infiltration of brain cells in the brain's cerebrospinal meninges, additional staining with mucicarmine for the presence of mucus. Figures 5 and 6 presents gastric tumor.

Discussion

To date, according to literature, MANECs has been identified in various organs, such as the stomach.[1] Diagnosis is mainly based on tumor cytology and architecture and is completed by immunostaining with specific neuroendocrine markers. In the macroscopic part of the autopsy examination, congestion and edema of the brain, few ecchymoses in the white matter of both hemispheres of the brain, bilateral foci of soft-

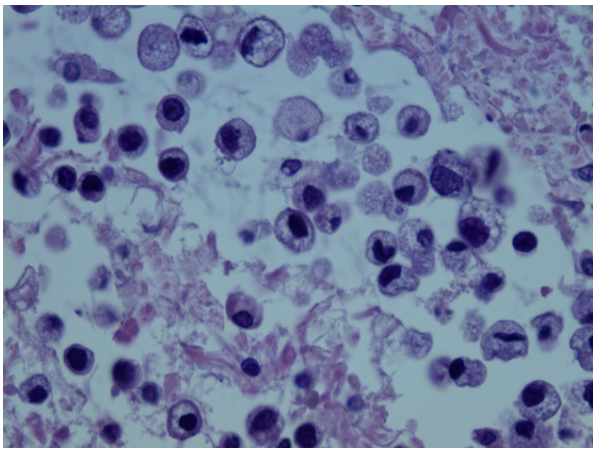

Fig. 1. Infiltrate of signaling cells in spinal cord cerebellum plains (H&E, 630x)

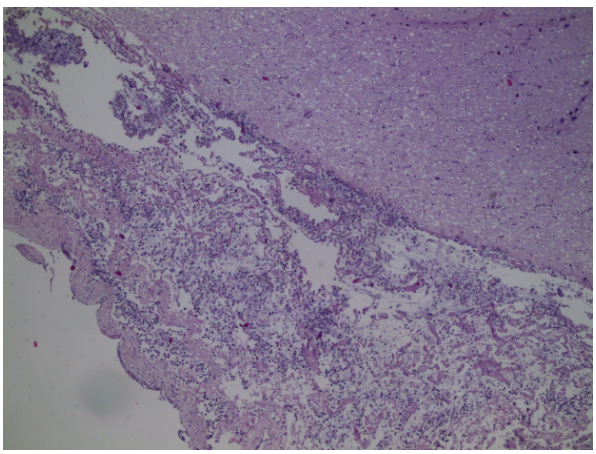

Fig. 2. Cerebrospinal meningin infiltrate by atypical plaintain cells (H&E, 40x)

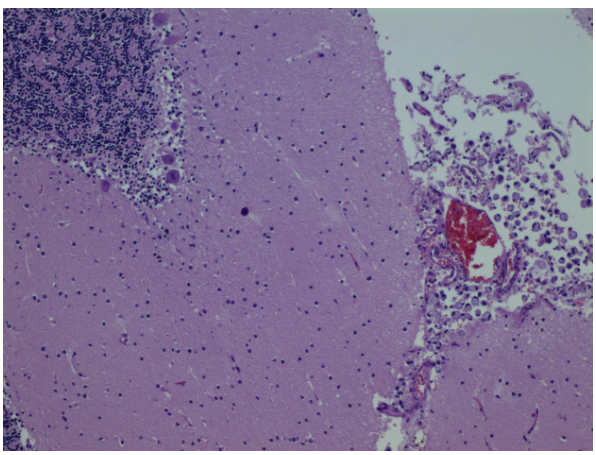

Fig. 3. Infiltrate of signaling cells in spinal cord cerebellum plains (H&E, 100x)

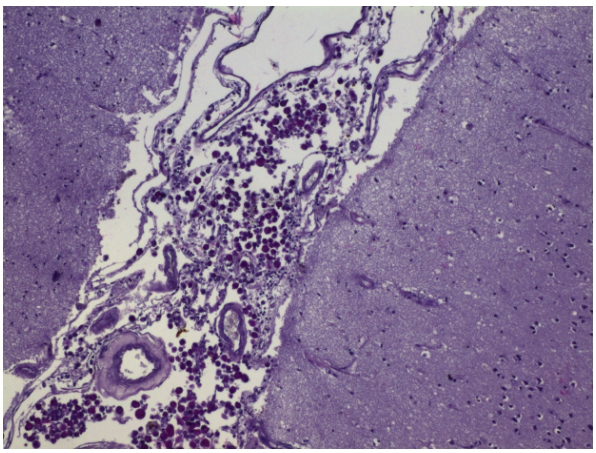

Fig. 4. Infiltration of brain cells in the brain's cerebrospinal meninges, additional staining with mucicarmine for the presence of mucus (H&E, 100x)

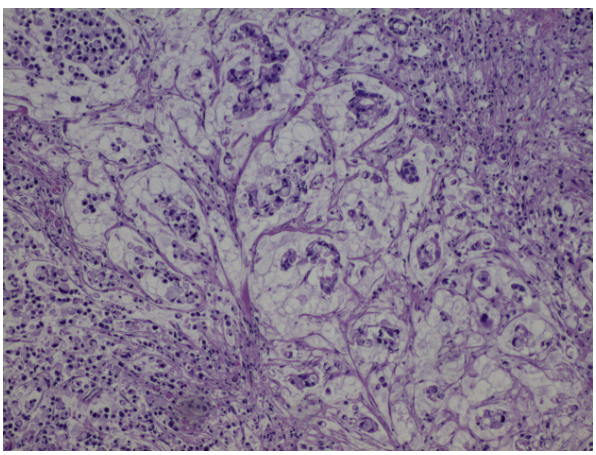

Fig. 5. Gastric tumor (H&E, 200x)

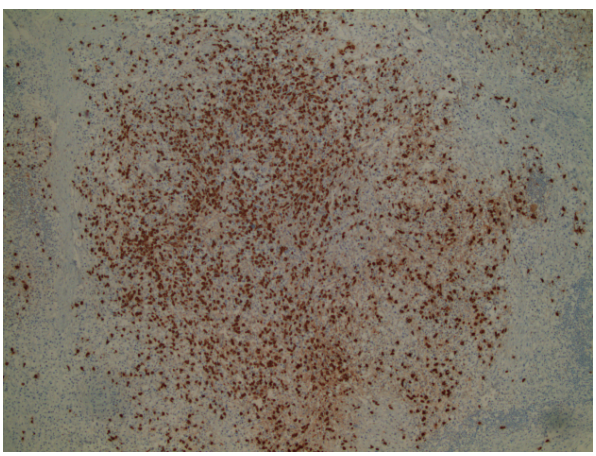

Fig. 6. Gastric tumor – positive chromogranin reaction (immunohistochemical staining, 100x)

ening in the cerebellar body, around the toothed nuclei, congestion and pulmonary edema and a single white-yellow nodule in the back wall of the stomach diameter 1 cm. In addition, there are no other significant deviations from the norm.

In the microscopic part of the autopsy examination in the cerebrospinal meninges a very abundant infiltration of atypical signet cells was found. In the brainstem there was an outbreak of softening with the presence of the same atypical signet cells.[2-5] Their presence was also demonstrated in the cerebellum and in the form of vascular occlusion in the lungs. The tumor in the stomach, however, after immunohistochemistry, turned out to be a mixed glandular-neuroendocrine tumor.

Conclusion

From a clinical point of view, this case is very instructive, because it shows that the results of imaging and laboratory tests are not always able to explain symptoms. Radiological studies suggested cerebral ischemic stroke, cerebrospinal fluid - bacterial meningitis, and clinical symptoms - brain stem pathology. In the end, all doubts were resolved only by the sectional examination, which showed that the basis for these changes was the dissemination of the MANEC-type stomach tumor to the central nervous system.

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