



MIGRAINE AS THE FIRST SYMPTOM FOR SETTING A CLINICAL DIAGNOSIS

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Abstract: The migraine is among the most frequent complains of the patients requesting a medical consultation. I am presenting hereby the case of a 34-year old patient, who complained of diffuse migraine followed several weeks later by vomiting and seizures. The brain computed tomography (CT) and magnetic resonance imaging (MRI) examinations indicate an intracranial spread located in the left (temporal) hemisphere, which had a mass effect on the ventricular system. When performing the extemporaneous examination, it was found an anaplastic oligodendrogloma. Subtotal resection under microscopic guidance was performed, as well as radiotherapy and chemotherapy after the surgery. When discharged from hospital, the patient was surgically cured and had an improved neurological state. The repeated checkups (clinical and paraclinical) indicated no signs of local relapse. Approximately 8 years after the first surgery, the patient returned for a check-up, in view of investigations and treatment, while complaining of migraine and a nervousness state that was bothering his family. The brain MRI indicated a large tumour relapse located in the left temporal-hippocampal region. The histopathology examination indicated that it was an anaplastic oligodendrogloma relapse. Surgery was performed and the tumour relapse located in the left temporal-hippocampal region was completely ablated. After the surgery, the patient was conscious and had no movement dysfunctions.

INTRODUCTION

Cephalea, one of the most frequent pain syndromes, is also one of the most frequent causes of requesting a neurology consultation. For setting the diagnosis and the adequate therapy, I believe it is vital to approach the migraine syndromes by considering the classification proposed by the International Headache Society (IHS). The first major dilemma for the physician is to clarify the nature of the migraine syndrome: Is it primary migraine or migraine as symptom of a broader clinical context?

For diagnosis orientation and adequate therapy, the next matters are essential:

- thorough medical history;
- general clinical examination and neurologic examination;
- targeted paraclinical examination.(1)

Patients complaining of persistent migraine with recent onset can experience secondary migraine due to various intracranial, extracranial or systemic conditions.(2)

Due to numerous potential causes, ranging from benign to catastrophic, the migraine takes the physician to several diagnosis and therapy-related problems. The medical history is particularly important for differentiating the primary migraine or the secondary migraine. The medical history elements are:

1. Duration of the migraine history and evolution following it;
2. Triggering or mitigating factors;
3. Premonitory syndromes, such as prodromes and aura;
4. Duration of migraine, both treated and untreated;

5. Location, quality, intensity, onset, and evolution of the migraine;
6. Connected symptoms, such as nausea, sensitivity to sensorial exposures, modifications of sight, neck stiffness, tearing, or rhinorrhea;
7. Exposure to medication or toxins;
8. Postdrome or “hangover” symptoms;
9. Prior reaction to medication;
10. Prior investigations and their results.(3)

CLINICAL CASE

I am presenting hereby the case of 34-year old patient that complained of diffuse migraine followed by vomiting and seizures several weeks later.

The brain CT and MRI examinations indicated an intracranial spread located in the left (temporal) hemisphere, which had a mass effect on the ventricular system.

Lung Xray examination: no pleuropulmonary evolving lesions.

During the extemporaneous anatomic pathology examination, it was found that it was an anaplastic oligodendrogloma.

Surgery was performed and a subtotal resection under microscopic guidance was accomplished.

The patient was discharged from hospital while being surgically cured and had an improved neurological state; he was recommended to go to the oncology department for radiotherapy and chemotherapy after the surgery.

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CLINICAL ASPECTS

Approximately one year after the surgery, the patient came to the physician for neurosurgery reassessment.

Local examination: smooth postsurgical scar.

Neurology examination: secondary seizures.

Investigations: Brain MRI – sequelae liquid hypodensity located in the left temporal lobe, on the surgery focal area, without a pathologic uptake of the contrast medium; the midline shift is unchanged.

Fundus of the eye examination – normal.

Ear-nose-throat (ENT) examination – bilateral post-otitis sequelae, no signs of acute inflammation.

Computerized electroencephalography (EEG) – rare Theta waves in the left frontotemporal lobe.

Patient's condition upon discharge from hospital – stable.

Four years later, the patient returned for a new neurosurgery assessment.

Neurology examination – normal.

Blood tests – within normal limits.

Brain MRI examination – no signs of local relapse.

Computerized EEG – analysis of electrical traces indicated a normal bioelectrical activity of the brain, which was reacting normally, while displaying a posterior dominant alpha rhythm. No irritation pathologic elements could be seen.

Clinical assessment – stable.

Recommendations: hygiene and diet plan, treatment according to the prescription, check-up 3 months later or when needed.

Three more years after the last presentation to the clinic and approximately 8 years after the surgery, the patient known as having anaplastic oligodendrogloma on the left temporal lobe, for which surgery was performed, and who was treated with chemotherapy and radiotherapy, as well as secondary seizures under treatment, complained of migraines, dizziness and behavioural disorders that bothered his family.

Local examination: postsurgical scars having normal appearance.

Clinical examination:

- adequate general condition;
- normal appearance of the teguments and mucosae;
- normally represented adipose tissue;
- lymph node system – the superficial nodes cannot be palpated and do not induce pain;
- no urinary catheter present when admitted to hospital;
- respiratory system – normally shaped thorax, breathing rhythm of 15 breaths per minute, vesicular murmur, no rales, no signs of respiratory failure;
- cardiovascular system – heart rate 70/minute, blood pressure – 120/70 mmHg, rhythmic heart sounds, no signs of heart failure;
- digestive tract – supple abdomen, which does not induce pain during palpation, abdomen moving while breathing, liver and spleen within normal limits, and normal bowel movement;
- kidney and urinary system – kidneys cannot be felt during palpation, do not induce pain; physiological urination.

Neurology examination:

- weird behaviour;
- no signs of meningitis;
- can walk and can stand;
- normal movement;
- normal coordination;
- cutaneous reflex responses: plantar reflexes present when engaging in bilateral flexion; abdominal reflexes present on both sides;
- symmetrical deep tendon reflexes, present on both sides;
- sensitivity – no objective modifications, migraines;

- urinary and recto-anal continence;
- cranial nerves – I-XII: normal clinical relations;
- the patient displays time and space orientation, as well as orientation to himself; nervousness;

Investigations:

- Brain MRI: spread with HT2 and FLAIR located in the left temporal-hippocampal region, which erased the adjacent intergyral sulci; encephalomalacic cavities located near the lesion described above. Conclusions: large tumour relapse located in the left temporal-hippocampal region.
- Lung Xray: the lungs display no pleuropulmonary evolving lesions.

Pathologic histology – relapsed anaplastic oligodendrogloma. Oncology treatment recommended.

Evolution and treatment: Surgery was performed and the relapsed tumour in the left temporal-hippocampal region was completely ablated. After the surgery, the patient was conscious, had no movement dysfunctions and displayed a dysphasia in progress of remission. After the surgery, the patient had partial movement seizures of the right hemibody, which remitted after the Carbamazepine dosage increased to 800 mg/day. Check-up brain CT examination indicated a normal postsurgical image.

Three years later, the craniocerebral MRI, unenhanced and after the contrast medium was given to the patient, indicated:

- tumour remnant in the temporal-occipital region, on the left side;
- postsurgical modifications connected to the tumour remnant;
- chronic rhinitis modifications.

The psychological testing indicated that the critical thinking was deteriorated, as well as the patient's communication abilities.

The patient complained of migraines and his family complained of disorders in his behaviour (rage, nervousness).

Neurology examination:

- dysphasia;
- brisk tendon reflexes in the lower limbs;
- sensitivity test: right hypoesthesia;
- segment muscle strength in the left upper member > segment muscle strength in the right upper limb;
- positive Romberg's test.

Figure no. 1. Image of the craniocerebral MRI examination, unenhanced and after the contrast medium was given to the patient



DISCUSSIONS

As consequence, the pain is what the patient indicated as upsetting, what he described and not what the others believed to be. The pain is objective (and aggravated) by the concomitant existence of other symptoms (cough, vomiting, hiccup, dyspnea, diarrhea, hemorrhage, insomnia, asthenia, urinary, and recto-anal incontinence), the psychological issues (fear, anxiety,

CLINICAL ASPECTS

despair, sadness, apathy, denial, and avoidance), social issues (isolation, lack of social or family support, financial problems, interpersonal problems, and unsolved emotional issues), cultural factors (value system specific to the patient, which his caretakers have not investigated and observed, and language barriers), spiritual worries (questions on suffering and death, regrets, feeling guilty about past events, denial of faith or on the contrary, reaffirming it, and exaggerating its power in connection to solving his suffering).(4)

The migraine (headache) derives from inflammation, expansion or even destruction of sensory nerve endings in the intra and extracranial structures.(5)

A major change in the pattern of a regular migraine syndrome should raise the suspicion of a structural lesion in the skull.(6)

The oligodendrogloma are neuroectodermal tumours derived from oligodendrocytes. The tumour is mainly encountered in male adults (30 – 50 years). They are almost exclusively located in the supratentorial region of the brain hemispheres.(7)

Classified according to grade: Low grade (WHO – World Health Organization – grade II), anaplastic (WHO grade III). A grade IV oligoastrocytoma is also known as a GBM (Glioblastoma) with oligodendroglial features. For oligodendrogloma, grade III is the highest grade.(9)

What makes an anaplastic oligodendrogloma, WHO grade III? These tumours have the features of oligodendrogloma, but they additionally demonstrate significant mitotic activity, nodules of hypercellularity, microvascular proliferation (corresponding to enhancement on MRI), and even necrosis.(10)

In the case of glioblastomas located in the temporal lobe, the symptoms of intracranial hypertension (migraine, vomiting) are most often the first symptoms experienced by the patients and sometimes, they are unique until the time of their admission to hospital.(7)

The intracranial hypertension syndrome usually appears later in the evolution of the temporal lobe tumours. The textbooks indicate that the migraine could be the first symptom of the intracranial tension increase, which originates in the vasomotor or tissue processes (edema) accompanying those phenomena. However, sometimes the migraines are caused by traction, compression and deformation of the endocranial structures, at the same time with the growth of the tumour. Vomiting, another major symptom of the intracranial hypertension, is found in over 50% of the cases. Usually, the vomiting follows the migraine in an average of 2-3 months. However, its intensity depends on the severity of the migraine.(7)

Epileptic manifestations are particularly important for locating the lesions, when setting the diagnosis of temporal lobe tumour. (7)

For the temporal lobe tumours located in the dominant hemisphere, the presence of speech disorders is particularly important for setting the diagnosis in connection to the tumour location. (7)

Aphasia and dysphasia are impairments of language function.(8)

In the temporal lobe tumours, the psychological disorders are highly encountered.(7)

Modifications of personality and attitude (nervousness, rage episodes, behaviour disorders, and disinhibition states, with a loss of self-criticism) are specific to temporal lobe tumours.(7)

CONCLUSIONS

The migraine (headache) is one of the most frequent complains due to which the patients go for a medical consultation. Because it is quite common (many of the migraine cases are caused by systemic medical conditions), a brain CT or MRI examination is not usually performed.

The thorough medical history and targeted clinical and paraclinical examination will help the physician in setting the diagnosis and indicating an adequate therapy.

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