The course of meningioma of the olfactory groove in a patient with a 7-year long psychiatric history: Case study, and diagnostic difficulties

Przebieg oponiaka okolicy rynienki węchowej u pacjentki z 7-letnim wywiadem psychiatrycznym: studium przypadku i trudności diagnostyczne

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**Summary**

**Introduction.** Meningomas are frequent primary neoplasms of the central nervous system. They grow slowly and constitute a clinically heterogeneous group. Symptoms depend on the location of the meningomas and the mental disturbances have various forms, i.e. cognitive, psychotic, depressive, and personality problems.

**Material and Methods.** We present a case of meningioma of the olfactory groove in a 50-year old woman with a seven-year long psychiatric history. For the last five years she has been drawing a disability pension due to “depression disorders of organic character”.

**Results.** After fifth psychiatric hospitalisation of the patient, in the relationship from deteriorating mental condition (she has become completely dependent on her caregivers) and because of long – lasting neurasthenic signs resistant to pharmacotherapy, CT of the head was performed. Image diagnostics revealed a focus located in the anterior cranial fossa. The tumor was entirely removed and histopathological examination confirmed the diagnosis of meningoma psammomatous.

**Conclusion.** We would like to stress the fact, frequently mentioned in the literature, that the disease frequently lasts for several years in the form of various mental disorders adopting a form of depression-type disturbances.

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Introduction

Meningomas are, after gliomas, the most frequent primary neoplasms of the central nervous system and constitute approximately 20% of all intracranial tumours. Their course is usually mild. They grow slowly and constitute a clinically heterogenous group. Symptoms depend on the location of the meningomas [1, 2, 3]. With a location in the anterior cranial fossa, the most common symptoms include mental disturbances, visual impairment, headaches, paresis of the VII nerve pair, speech disturbance, urinary incontinence, and epileptic seizures. The mental disturbances have various forms, i.e. cognitive, psychotic, depressive, and personality problems. In 8-18% of patients the meningiomas are located within the olfactory groove, and typical accompanying symptoms include visual impairment, olfactory disturbances, depressive changes, and lesion of the frontal lobes in the further stage of the disease [4, 5, 6].

In this study we present a case of meningioma of the olfactory groove in a 50-year old woman with a seven-year long psychiatric history. We would like to stress the fact, frequently mentioned in the literature, that the disease frequently lasts for several years in the form of various mental disorders adopting a form of depression-type disturbances.

Case report

The patient is a 50-year old woman with secondary education, an office worker. For the last five years has been drawing a disability pension due to "depression disorders of organic character". During her childhood there was a period of several years of neurological treatment for "epilepsy" (no file) and a head injury with loss of consciousness when she was 14. Since then she has been in a full neurological remission. Seven years ago she reported to a mental health ambulatory complaining on problems with concentration, apathy, lack of energy, constant feeling of fatigue, and difficulties in performing her parental (mother of two children) and professional duties. During that time she was on sick leave several times due to depression-type disturbances. In addition, her husband abused alcohol, there were episodes of domestic violence, and her husband was violent towards the patient. The history file maintained by the mental health clinic mentions the following for the first four years of treatment: "languidness, feeling of constant fatigue, tearfulness, anhedonia" and „resignation thoughts”. Due to lack of response to the applied drugs (fluoxetine, nitrazepam, pernazinum, opipramol, vinpocetine, piracetam) the patient received a pension and was directed to hospital treatment in the following hospital departments:
- general psychiatric (fluoxamine, promazine, sulpiride, klorazepat) in 2002,
- for treatment of neurosis (fluoxetine, alprazolam, pernazinum) in 2002,
- general psychiatric (tianeptine, carbamazepine) in 2004.

Despite the applied treatment, the patient's condition gradually deteriorated; body weight was dropping. Between hospital stays the patient was able to function only thanks to the constant support of her children (her husband was still abusing alcohol). She could not walk without support, required full-time care in personal hygiene and taking her medications. As a result she was directed to the department of internal medicine ("dyspepsia functionalis, cachexia"). Various tests were performed there: gastroscopy, USG of the abdominal cavity, USG of the thyroid gland, X-ray of the chest, and even a colonoscopy, without a significant contribution to the final diagnosis. Additionally, rheumatoid arthritis was diagnosed in a rheumatological clinic (arechin was recommended). After several months the patient discontinued this treatment because of a negative attitude.

For the next two years she remained under the supervision of a psychiatrist. Her family was bringing her for scheduled visits. The following conditions dominated in the history: cachexy, lack of appetite, apathy, somnolence during the day, insomnia at night, for whole days she remained in bed, she has withdrawn from social life. Intensive pharmacotherapy was applied during that time (tianeptine, carbamazepine, chlorprothixen and numerous benzodiazepines). Lack of effect of the ambulatory treatment caused her referral to the psychiatric department (fourth hospitalisation, 2006), where recurrent depression disorders were diagnosed and pharmacotherapy recommended (pernazinum, valproate, clomipramine). Following discharge the treatment was continued in the mental health clinic, without significant improvement. After several months, due to deteriorating mental condition (she has become

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**Fig. 1.** CT of the head. Meningioma located in the anterior fossa

**Ryc. 1.** Obraz KT głowy. Oponiak zlokalizowany w przednim dole czaszki
completely dependent on her caregivers, psychomotorially sluggish, in constant bad mood, mentally retarded, not talkative and hard to make contact with, with an impoverished personality and complete lack of interests) she was directed to the psychiatric ward (fifth hospitalisation). Because of the long-lasting neurasthenic signs resistant to pharmacotherapy, CT of the head was performed. Image diagnostics revealed a focus sized 1.5 x 1.8 x 1.1 cm located in the anterior cranial fossa, extracerebrally, in the lower part of the longitudinal fissure of the brain; the image of the foci suggested meningioma of the olfactory groove. No expansion towards the ethmoid was shown; the lesion did not cause any significant pressure towards the frontal lobes or displacement of medial structures.

The patient was immediately directed to the neuro-surgical department. At admission she was apathetic, with logical verbal contact, responsive, without functional paresis, also not within the cranial nerves, and without visual acuity and visual field disorders. The patient complained of mild headaches and bilateral reduction of olfaction was found. The patient did not complain about smell, and she has never been asked about it. Surgery was performed with sub-frontal craniotomy on the right side. The tumour was completely removed and the meningeal attachment was coagulated at the base of the anterior cranial fossa. Following the surgery the patient was awoken and the intubation removed. She showed complete logical verbal contact, responsiveness, no paresis, and assumed an erect position on the first day after surgery. On postsurgical day 6 the patient was discharged home in good general condition, with full verbal contact, walking independently, and without headaches. Anti-depressive treatment was maintained during the hospitalisation (fluoxetine). Histopathological examination confirmed the diagnosis of meningioma psammomatous: benign meningioma of the grade I according to the WHO score. The patient was discharged home with recommendation of follow-up at the mental health clinic and neurosurgical monitoring.

For three months after surgery the patient was constantly in a depressed mood, with slightly reduced psychomotorial ability, emotionally unstable, and active at home. She periodically reports sleeping disorders, and is afraid of losing her pension. She remains under constant psychological supervision (fluoxetine, valproate, benzodiazepines at night, in case of emergency) and neurosurgical supervision. At present she is waiting for a follow-up CT.

Conclusions

A classic set of signs characteristic for meningioma of the olfactory groove was described by Kennedy in 1911. He reported the symptoms of a large unilateral frontal tumour. The typical signs include optic disc atrophy, loss of olfaction at the side of the tumour, chocked disk on the other side, and mental disorders connected with defect of the frontal lobe. In the age of modern diagnostics, extensive forms of meningiomas are rare, and the first signs of disease characteristic of these tumours, which do not cause dislocation of cerebral structures or increased intercranial pressure, are depression disorders, headaches, and epileptic seizures [7, 8]. Loss of olfaction, as an early sign, is detected in just 10% of patients (HH), and is frequently underestimated by the patients themselves [9].

The reported case is worth noting for several reasons. The problem of chronic depression disorders with asymptomatic neurological image, without increasing intercranial pressure, is long known. The neurological past of the patient, i.e. epilepsy and head injury with loss of consciousness in childhood, suggesting an organic character of the disorder, rendered a diagnosis of cerebral tumour difficult. Alcoholism of the patient's husband, as a stress factor, also made the diagnosis more difficult, directing the physicians towards "depression disorders based on family alcoholism".
References


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