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Meningioma Infiltrative Accompanied by Organic Delusional Disorders

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ABSTRACT

Introduction: Meningiomas are primary extra-axial tumours of the central nervous system (CNS) with an incidence of 2 in 100,000 in adults. There is an estimate of a 3: 1 female predominance of these tumours mainly due to the action of estrogen. Meningiomas are commonly associated with headaches, imbalances, visual disturbances, and other neurological problems which can be very debilitating. This case report will describe a case of a brain tumour accompanied by psychiatric disorders. **Case presentation:** Mrs. W, a 37 years old woman, a housewife, Javanese, Moslem, married, and lower socioeconomic background, came with her family to the Neurology polyclinic because she experienced changes in behavior seven months ago in the form of much silence, daydreaming, cannot communicate, sometimes talking to herself, eating drinking and bathing must be helped and served. Four months before being admitted to the hospital, the patient's headaches worsened and the patient became increasingly withdrawn, accompanied by weakness in both legs. From the results of CT-scan with contrast, the results showed that the meningioma infiltrates and perifocal oedema, which caused subfalcine herniation as far as 2.73 cm to the right. **Conclusion:** Infiltrative meningioma is often accompanied by mental disorders in the form of personality changes, depressive-like symptoms and neurological symptoms. Clinicians should be able to detect a brain mass so that management can be undertaken immediately.

1. Introduction

The incidence of brain tumours was relatively familiar with an annual frequency of 9 per 100 000 for primary brain tumours and 8.3 per 100 000 for metastatic brain tumours. Brain tumours can be classified based on histopathological characteristics or their anatomical location. There are two types of tumours: primary tumours, which originate in brain tissue, and secondary tumours, which metastasize to various locations throughout the brain. The most common primary brain tumours are gliomas, which are divided into several types: astrocytoma, oligodendroglioma, and ependymoma. The group of brain tumours that are not from glial tissue includes meningiomas, schwannomas, craniopharyngiomas,

germ cell tumours, pituitary adenomas, and pineal region tumours.¹

Meningiomas are primary extra-axial tumours of the central nervous system (CNS) with an incidence of 2 in 100,000 in adults. There is an estimate of a 3: 1 female predominance of these tumours mainly due to the action of estrogen. Meningiomas are commonly associated with headaches, imbalances, visual disturbances, and other neurological problems which can be very debilitating. Based on the classification system for neural tissue tumours, meningiomas are included in the meningotheial cell tumours of the meninges and are classified in three levels: grade I (slow-growing, not cancer); grade II (atypical with

mixed features of non-cancer and cancer) and grade III (cancer and fast-growing). Most meningiomas were rated as I and benign with treatment consisting only of surgical resection, which resulted in a recurrence rate of 2–3% after total resection. For small tumours or tumours that were excised entirely, focused radiotherapy is an additional option. However, the treatment of meningiomas that envelop important nerve and vascular structures, and more aggressive histologic types, such as anaplastic (grade III), can be more challenging.²

Most brain tumours present with specific neurological signs due to mass effects. However, in rare cases, this symptom appears mainly with psychiatric symptoms. A study by Kerschner et al. reported that 78% of 530 patients with brain tumours had psychiatric symptoms. However, 18% of 530 presented only this symptom as the first clinical manifestation of a brain tumour. Due to the neural connections of the brain, a lesion in one region can manifest many symptoms depending on the function of the underlying nerve focus. Treatment of psychiatric symptoms caused by brain tumours is given based on the symptoms that appear; for example, antipsychotics are used to treat psychosis. This case report will describe a case of a brain tumour accompanied by psychiatric disorders.³⁻⁵

2. Case Presentation

Mrs W, a 37 years old woman, a housewife, Javanese, Moslem, married, lower socioeconomic background, is the second of four children, came with her family to the Neurology polyclinic because she experienced changes in behaviour since seven months ago in the form of much silence, daydreaming, talking not connected, sometimes talking to herself, eating drinking and bathing must be helped and served. This is alleged because the patient is left by her husband and will be divorced. Besides, the patient also complained of throbbing, intermittent and felt headaches next to the head. Complaints of this headache are reduced when resting.

Four months before being admitted to the hospital,

because the patient's headaches worsened and the patient became increasingly withdrawn, accompanied by weakness in both legs, the patient was then taken for a consultation to Ghrasia Psychiatric Hospital. The patient was then diagnosed with severe depression and received fluoxetine therapy 20 mg / 24 hours, THP 2 mg / 12 hours. After taking these medicines, the patient's hands often become shaky and stiff. Because the patient's family felt that there was no significant change in the patient's condition, the family returned to the Ghrasia Hospital for consultation and was then referred to the Sardjito Hospital.

From the results of CT-scan with contrast, the results showed that the meningioma infiltrates and perifocal oedema, which caused subfalcine herniation as far as 2.73 cm to the right. In laboratory examination, there was a decrease in CD4 count, as well as an increase in anti-Rubella IgG titers which contributed to the existence of viral encephalitis.

When the patient was admitted to the hospital, the patient received therapy in the form of citicoline injection 500 mg / 12 hours, KSR tab one tablet / 24 hours, alprazolam 0.5 mg / 24 hours and haloperidol injection 5 mg / 12 hours. After one day of hospitalization, the patient was still hypoactive, but consciousness tended to improve. Psychotic symptoms of anxiety and clang association are reduced. On the second day, the injection of citicoline and haloperidol was stopped.

On the fourth day, the patient was able to communicate well, so a further examination was carried out for psychiatric symptoms. From the mental status examination, it was found that the patient had an impression according to age, self-care was sufficient, awareness of *compos mentis*, orientation to her surroundings was challenging to assess because the patient was silent, non-realistic forms of thought content was difficult to assess, the progression of thought was mutism, limited affect, difficult mood to assess, disturbance perceptions are difficult to judge, attention is difficult to attract challenging to quantify, mental relationships are complicated, insight cannot be assessed. Physical and other neurological

examinations were within normal limits.

From the psychiatric supporting examination, it was found that social relations were lacking, depressive, anxious, less responsive to the environment (Wartegg test), depressive, lack of confidence, anxiety, egocentricity, histrionic tendencies, superego less functioning (Tree-House-Person test), suspicious thoughts excessive and insufficient level of patient independence (MMPI-2).

By the second week of treatment, the patient's neurological complaints had improved, and the symptoms of psychiatric symptoms also improved. Patients were given citicoline therapy 1 mg / 12 hours, mecobalamin 1000 mg / 24 hours, and immunomodulator (Immunos) 1 tablet / day. Psychiatric treatment was stopped and continued with supportive psychotherapy.

3. Discussion

Brain tumours as the leading cause of psychiatric symptoms are rare. The rarity of this condition, the coincidence of the disease process, unclear symptomatology, and various signs are leading to several causative factors that contribute to the diagnostic challenge. The diagnosis of psychiatric symptoms secondary to brain tumours begins with a differential diagnosis. Early diagnosis is vital with regard to further treatment and a better quality of life.⁶

In this case, depressive and psychotic symptoms are found that are not responsive to antidepressant therapy. An explorative medical history and physical examination can help in the diagnosis. Subtle clues that can be missed include neurological signs, namely, apraxia, visual field deficiency, and anosmia. Behaviour changes, insomnia, apathy, weight loss, anorexia, or shaky concentration may be early symptoms of this disease. Further clues indicating the presence of a brain tumour may include psychiatric symptoms that do not fall into a different diagnostic category or atypical symptoms, symptoms that are difficult to treat, and recurrence of symptoms previously controlled for which other contributing factors (such as non-adherence to medication, acute

stress, or change of treatment) has been removed.^{7,8}

Neuroimaging is the diagnostic modality used to find the presence of brain tumours. CT and MRI are used for anatomical assessment. Magnetic resonance spectroscopy is used for the relative counting of metabolites at different brain locations. For this case report, we will focus on anatomical assessments that are routinely used in clinical practice. CT remains the modality of choice for acute trauma and bleeding. Other advantages of using a CT scan are greater availability, fewer contraindications, and lower prices. Madhusoodanan et al., Recommend that neuroimaging be considered in the following conditions: new-onset psychosis, new-onset mood/memory symptoms, the occurrence of new or atypical symptoms, new-onset personality changes, and anorexia without body dysmorphic symptoms. Conditions for which neuroimaging may or may not be necessary include relapse of previously controlled psychiatric symptoms and patients' refractory to treatment. Neuropsychological testing is beneficial in evaluating cognitive and psychological dysfunction, documenting changes before and after treatment, and in monitoring the effectiveness of rehabilitation efforts.^{9,10}

4. Conclusion

Infiltrative meningioma is often accompanied by mental disorders in the form of personality changes, depressive-like symptoms, and neurological symptoms. Clinicians should be able to detect a brain mass so that management can be undertaken immediately.

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