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The study of mood disorders among patients with meningioma as the first symptoms of the tumor

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Abstract

Psychological signs and symptoms related to anterior skull base meningiomas, include personality change. This study investigated the effect of meningiomas in behavior and personality, as a common cortical manifestation of this condition related to the anatomical etiology of meningioma. In this 6-year study among patients with meningioma, 9 patients found to have mood disorders. Women were more affected than men. Also, convexity was the most prevalent location of meningioma among these patients with brain tumor.

Keywords: Personality Change; Meningioma; Brain Tumor; Neuropsychology

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Introduction

Meningioma is an extra-axial and intradural tumor originates from arachnoid layer of meninges. As meningioma can push the brain when originates from convexity meninges, the cortex adjacent to tumor so we find brain cortical signs and symptoms secondary to meningioma [1]. Cortical manifestations of meningioma consist of memory disturbances, personality change, mood disorders and other excellence brain functions [2]. Meningioma is one of the most prevalent brain tumors in adults. Furthermore, it is indicated that approximately the one-third of tumors located in central nervous system are meningioma. Evidences yield from studies during last decades

represented that meningioma is more prevalent among women than men, also it was indicated that the incidence of this primary brain tumor, increases with age [3]. As most meningiomas are benign, yet they can implicate central nervous system with serious mortality and morbidity. Signs and symptoms related to meningioma, may differ due to the size and locations, although it can remain asymptomatic in some specific locations without requiring any immediate treatment. However, it should be mentioned that meningioma as a benign and mostly slow-growing tumor, impose more invasive procedures on patients over years [4]. Still open microsurgical resection stands as the treatment of choice for meningiomas. Meningioma originates from arachnoid layer of meninges; therefore, we can see meningioma in

cortical area more than intra axial brain tumors. The most common anatomical site of meningioma after parasagittal, is convexity. Otherwise, according to our study results, convexity is at the top of the list of anatomical location of meningioma. As this anatomical etiology of meningioma can demonstrate various cortical manifestations in clinical course of the disease. Cortical manifestation can occur in different types of meningioma because of increased intracranial pressure (ICP) also, but in convexity type and parasagittal or Para falx, the direct mass effect adjacent the cortex can lead to epilepsy, motor deficit, urinary incontinency or different psychological signs and symptoms e.g. personality change, aggressive behaviors or mood disturbances. Cortical hallucination like olfactory abnormal sensations can occur in temporal convexity meningioma, most likely is misdiagnosed by non-neurosurgeon physicians [5,6].

Patients and Methods

This study was conducted during 6 years in neurosurgery ward of Shariati Hospital. We included.

614 patients with brain tumors consist of meningioma, glioma and pituitary tumor. Among these 614 patients detected by brain tumor, 145 patients had meningioma.

Results

In this study over 6 years, among 145 patients detected by meningioma, it was found that convexity was more prevalent. The latency period between symptom initiation till tumor diagnosis was approximately 6 months, and for all of them had been prescribed psychiatric drugs. The average age of our case series was 34.5 and female to male ratio was 3.5, but female to male ratio among all patients with meningioma was 2. Among these 145 patients with meningioma, 9 individuals found to have mood disorders. Also, the prevalence of mood disorders among these 9 patients included:

1. 3 detected with depression consist of:

- (1) Female with 45 years old
- (2) Female with 31 years old
- (3) Female with 42 years old

2. 4 detected with BMD consist of:

- (1) Female with 30 years old
- (2) Female with 29 years old
- (3) Female with 43 years old
- (4) Male with 24 years old

3. 2 detected with anxiety consist of:

- i) Female with 36 years old ii) Male with 29 years old

Conclusion

As per mentioned before it's obvious that the psychological symptoms of meningioma are related to frontal lobe convexity, because of specific function of frontal lobe cortex, but, in addition, intra cranial pressure rising, can affect mostly the frontal lobe also, therefore, when tumor leads to ICP rising, psychological symptoms would be appeared. Unless that ICP rising is mostly acute or subacute, and we must exclude it when the disease takes some days to convinced us as chronic period of the disease. Besides that, ICP rising is a condition in which vomiting and visual problems is more apparent.

Our aim regarding presentation of our experience on meningioma brain tumor is to introduce some unusual but not uncommon manifestation of meningioma as the patient's chief complaint that doctors should consider them for early diagnosis and detection of disease as well to refer patient to neurosurgical consultations.

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