Case Report

Psychosis in a Young Patient with a Left Temporal Arachnoid Cyst: A Case Report

Anas Ibn Auf [1] and Hussam Kabakbji [2]

[1]Consultant Psychiatrist, Mental Health Hospital, Taif, Saudi Arabia
[2]Registrar of Psychiatry, Mental Health Hospital, Taif, Saudi Arabia

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Corresponding Author:
Anas Ibn Auf. Mental Health Hospital, 2826 Abdullah Ibn Umayah, Shihar Dist.
Taif 26513 - 6617 Saudi Arabia. Email: anasibnauf@hotmail.com.

Abstract

Background:
Psychiatric disorders can be caused by organic conditions. Arachnoid cysts are suggested to be related to psychiatric disorders since many case reports have be published presenting coexistence of arachnoid cyst and psychosis.

Case report:
An 18-year-old single male was admitted to the psychiatry hospital with severe fearfulness, disorganized behavior, decreased sleep, and refusal of oral intake. He had delusions of guilt, persecution and misidentification. He also showed periods of incoherent and very poor speech, perplexity, disorientation, and some catatonic features. There was no history of substance use or significant medical problem. Physical, including neurological, examination and laboratory investigations were normal. A brain CT revealed the presence of an arachnoid cyst in the left temporal lobe. He was treated pharmacologically with partial and slow response.

Conclusion:
Causal relationship between arachnoid cyst and psychosis is difficult to be concluded in this case, but the possibility should not be ignored. This case is reported from Arab region where there is lack of such publications. More in depth research is needed.

Key words: Psychosis; Temporal lobe; Arachnoid Cyst; Arab; Case report.

الملخص

خلفية: الاضطرابات النفسية قد تكون ناتجة عن امراض عضوية، وهناك علاقة محتملة بين الكيسات العنكبوتية والاضطرابات النفسية بناء على عدد من تقارير الحالات المنشورة لكيسات عنكبوتية مصحوبة بالذهان.

تقرير الحالة: تم تنويم شاب أعزب عمره ١٨ عاماً بالمستشفى النفسي يعاني من خوف شديد وسلوك غريب مع قلة النوم ورفض تناول الطعام، وجد لديه ضلالات الذنب والاضطهاد وضلالة التعرف الخاطئ، كما كان كلامه قليلا جدا وغير مفهوم، وكان يبدو متحيرا ومشوشا مع بعض المظاهر التخشبية. لم يكن لديه تاريخ سابق لتعاطي المؤثرات العقلية ولا لأمراض عضوية مؤثرة. كانت نتائج الفحص الجسدي، بما في ذلك فحص الجهاز العصبي، طبيعية وكذلك التحاليل المختبرية. بينما أظهرت صورة الأشعة المقطعية للدماغ وجود كيسة عنكبوتية في الفص الصدغي الأيسر. تمت معالجة المريض دوائيا لكن استجابته كانت بطيئة وجزئية.

الخلاصة: من الصعب الجزم بالعلاقة السببية بين الكيسة العنكبوتية والذهان من خلال هذه الحالة ومع ذلك لا يمكننا تجاهل هذا الاحتمال. هذه الحالة سجلت في المنطقة العربية حيث تكاد لا توجد أوراق منشورة مشابهة. ولا يزال الموضوع بحاجة إلى مزيد من البحث العميق.

كلمات مفتاحية:
ذهان، الفص الصدغي، كيسة عنكبوتية، المنطقة العربية، تقرير حالة.

Introduction:

Intracranial lesions are among possible organic causes of psychotic disorders, although the relation between arachnoid cysts and psychiatric disorders is not confirmed [1]. Arachnoid cysts are uncommon benign neurological tumors and they represent only 1% of all intracranial space-occupying lesions [2, 3]. Arachnoid cysts are mostly congenital, and they are formed by an arachnoid membrane containing cerebrospinal fluid (CSF) [4, 5]. Most cases of arachnoid cysts are asymptomatic and are accidentally diagnosed by neuroimaging [6, 7]. Despite that, many articles have reported cases with intracranial arachnoid cysts present-

ing with psychotic features [1, 2, 4-7]. Although it is usually hard to prove the causal relationship in most of those cases, the increasing number of cases described in literature cannot be simply justified by the coincidence [7]. More studies on such cases is needed to add to the knowledge regarding both etiological and management aspects of this condition.

Case report:

An 18-year-old Saudi male, single was admitted to the Mental Health Hospital because of severe fearfulness, behavioral change, decreased sleep, and refusal of oral intake associated with marked weight loss.

According to his parents, the condition started 8 months ago with behavioral change; patient started to isolate himself, to ask his father to forgive him inappropriately, and he asked his mother to bring him a little brother to play with. Few months later, He became enclosed in his room, with poor sleep, fearful and behaving in a strange way (dancing and getting anger outbursts without obvious reason), he thought that his friends took pictures to him while he was nude in the bathroom and threatened him to diffuse them on internet. He started to think that his mother is not his real mother.

Patient had no history of mental illnesses, no history of psychoactive substance use, no forensic history, and no significant family history of mental illnesses. His medical history was insignificant. He had been graduated from secondary school few months ago with a very good performance, just before the onset of his illness.

On Mental status examination, patient was conscious, having good self-care and self-hygiene, but uncooperative, restless, and having some disorganized behavior. He was anxious and fearful, but his affect was restricted. He had delusions of guilt, persecution and misidentification. There were no suicidal or homicidal ideas and no hallucinations. He had lack of insight and impaired judgment. During his hospital stay, patient showed periods of incoherent and very poor speech, perplexity, disorientation, and some catatonic features (mutism and negativism). He refused oral food intake during first few days in hospital which necessitated parenteral feeding.

Patient's physical examination were normal and there were no focal neurological deficits. All laboratory investigations were within normal, including complete blood picture, thyroid, liver and renal function test, and blood glucose. Urine toxicology were negative. Electroencephalograph (EEG) did not reveal any abnormality. Brain Computed tomography (CT) Scan with contrast was done and has revealed an extra-axial left temporal arachnoid cyst. The lesion was about 3.6 × 1.6 cm in size (Fig. 1).

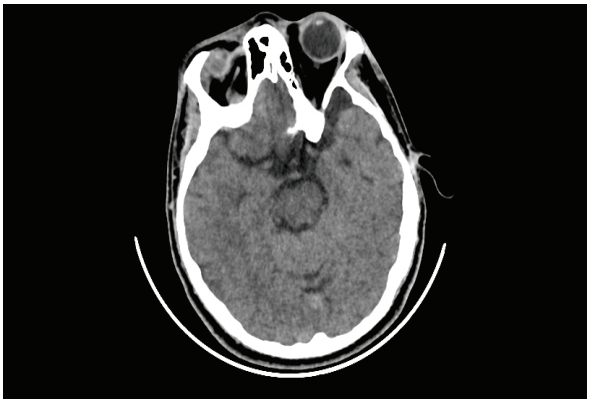


Figure 1: Brain CT showing an extra-axial left temporal arachnoid cyst

The neurosurgeon was consulted; however, due to the lack of neurological symptoms; he recommended against any neurosurgical intervention and he proposed the medical management.

Patient received injectable antipsychotics; Haloperidol 5 mg bid, in the beginning, because he was uncooperative and refusing oral medications. Then it was replaced by olanzapine, because of the appearance of extrapyramidal side effects, started with 5 mg/day and increased gradually to reach 20 mg/day. Six weeks after starting olanzapine, a small dose of flupenthixol was added as an augmentation because of limited response. During the following three weeks, patient showed remarkable improvement. On discharge, after 9 weeks of hospitalization, patient was calm and cooperative, with no problem in sleep or appetite. He was no longer deluded, anxious or fearful, although he was still socially isolated and having little speech.

Discussion:

This patient presented with prominent psychotic features characterized by delusions and disorganized behavior, as well as some catatonic features and negative symptoms, for a duration of about 8 months. There were few affective symptoms which were not enough to make a diagnosis of a mood disorder. Depending on this presentation and considering the neurosurgeon's report that the arachnoid cyst had no any mass effect, our patient received a provisional diagnosis of schizophrenia.

Despite this diagnosis, there are some reasons to suggest possible association, not just a simple coincidence, between this psychotic illness and the arachnoid cyst. In our patient, the arachnoid cyst was in the left temporal lobe, and there is a relation between dysfunction in this area and the presence of schizophrenia [8] and psychological symptoms were found in 76% of patients whose temporal lobes were affected [9]. Other factors supporting this suggestion include the absence of past or family history of psychiatric disorders in our patient and the absence of clear precipitating factors. According to previous studies [10, 11], psychiatric symptoms of the cyst may include: paranoid delusions, alexithymia, attention deficit and hyperactivity disorder, and guilt feeling which were present among our patient's features.

Regarding treatment response, our patient responded partially and slowly to the medications he received which was similar to results achieved in several patients presented

with an arachnoid cyst with psychosis who were treated pharmacologically without any surgical intervention and complete remission of the psychotic symptoms was not achieved [5, 12]. On the other hand, rapid improvement reported when surgical intervention was performed [13, 14] in form of craniotomy, excision, or drainage [1,15]. In a case series published by Kohn et al, eight patients presented with both arachnoid cysts and psychiatric features, cyst was surgically removed in one of them and he was the only one to show complete remission of symptoms [1].

Conclusion:

It is difficult to confirm whether the arachnoid cyst was responsible for the psychotic features in our current patient, but its possible role in the etiology should be considered. This case reported a rare presentation especially in the Arab region where there is lack of published similar case reports. Further studies of more cases with coexistence of arachnoid cyst and psychosis are recommended for more exploration and confirmation of the causal relationship and then deciding the optimum plan of management.

Ethical Considerations:

Ethical approval was obtained from the ethical committee of Ministry of Health and informed consent for publication was signed by the patient's father.

Conflict of Interests:

The authors declare that there is no conflict of interests regarding the publication of this-paper.

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