Background

Psychotic disorders which may be caused by either functional or organic conditions, are clinical entities characterised by changes in perception and thinking, thus interfering with the patient's social performance [1].

In DSM-IV, psychosis with an organic aetiology is named "Psychotic Disorder due to a General Medical Condition" and has two subgroups: i) with hallucinations, and ii) with delusions [2]. Traumatisms or structural changes of the brain such as space-occupying lesions; biochemical changes (including intoxication with drugs); organ failure; infections; and nutritional deficiencies are all examples of causes of psychoses that are secondary to a general medical condition [1,3-6].

Arachnoid cysts are benign space-occupying lesions containing CSF. They are rare lesions and account for only 1% of all intracranial space-occupying lesions [7]. From an etiological point of view we should distinguish between true cysts (of a congenital nature) and false ones, which are secondary to the post-inflammatory accumulation of CSF during cranial traumatisms, infections or intracranial haemorrhages [7,8]. Arachnoid cysts can appear in any area of the central nervous system, though they are more frequent in the Sylvian fissure, where they are found in about 50% of cases [8]. They occur roughly twice as often on the left side as they do on the right, although the reason for this is unknown [7-9] and there is a preponderant ratio of 3:1 in male as opposed to female patients [9].

Arachnoid cysts are often diagnosed before adulthood (60–90% prior to the age of 16) [8]. In most cases diagnosis is accidental, and it may even result from a fortuitous discovery during a post-mortem examination [7,8,10].

Three mechanisms for their expansion have been described: i) unidirectional valvular mechanism; ii) displacement of liquid due to an increased osmotic gradient within the cyst; and iii) secretion of liquid by the cells that compose the walls of the cyst [7,8]. The clinical picture of these anomalies varies depending on their location and the patient's age. During the paediatric period hydrocephaly or cranial deformation are the most frequent manifestations, whereas in adults, headaches and convulsive episodes are the most common [8]. Other signs and symptoms include ataxia, ocular alterations, focal signs, dizziness, and altered memory [8,11].

Although arachnoid cysts are classically considered to be incidental lesions when found in people with psychiatric disorders (and no elementary neurological signs) [11], some articles point to the existence of a putative causal relationship [11-21].

The discovery of an arachnoid cyst in a person with a psychotic disorder raises diagnostic and therapeutic problems that are extremely significant from a clinical point of view [11,12,15,18-20].

Case Presentation

A 21-year-old man went to the emergency department of São Francisco Xavier Hospital (Lisbon) saying that he had appendicitis and needed an operation. He also said that his appendix and his liver were interfering with his voice. According to his mother, for the last three years the patient had displayed periods of behavioural changes, with aggressive behaviour and unwarranted laughter. Recently, he had been fired from several jobs for being late. The patient justified his behaviour by saying that he couldn't sleep at night, and described what seemed to be complex auditory hallucinations in the second and third persons with a depreciatory content.

In the previous two months the clinical picture had deteriorated, with disorganised thoughts and "periods in which he wasn't there", during which he did not answer any questions or initiate any conversation. According to the patient himself, at such times, he was perplexed because the words people said appeared to make no sense.

During the mental state examination, the patient was alert and oriented in space and time. He displayed delusions with a hypochondriac theme that focused on concerns about the state of his liver and his appendix, and auditory/verbal hallucinations with a depreciatory content. The patient was euthymic, and his feelings were appropriate, with no blunting or flattening. He did not display any insight into his condition. The neurological exam did not reveal any changes and the Mini-Mental State Examination [22] was normal (29/30).

His prior medical history included a head trauma at the age of 16 that had been caused by a motorcycle accident and had apparently not been serious. No cranial computer tomography (CT) had been done at that time. The patient admitted to a regular consumption of cannabis since the age of 13, together with alcohol abuse that had recently worsened. He also had a sporadic consumption of cocaine and methylenedioxymethamphetamine (MDMA).

His family history included a suicide attempt by his half-brother a few months before, which had not been associated with any psychotic condition.

The blood tests were normal except for the toxicological traces, which revealed the presence of cannabinoids in the urine sample (52 ng/ml).