

GIANT ARACHNOID CYST WITH SPONTANEOUS SHRINKING: A CASE REPORT

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Received: April 28, 2022

Accepted: June 26, 2022

Published: July 1, 2022

Cite this as:

Asan Z. Giant arachnoid cyst with spontaneous shrinking: a case report. *Malang Neurology Journal*; 2023;9:52-54. DOI: <http://dx.doi.org/10.21776/ub.mnj.2023.009.01.10>

ABSTRACT

Arachnoid cysts occur in approximately 1% of all intracranial space-occupying lesions and do not require a very high rate of surgical intervention. Arachnoid cysts are cystic formations containing cerebrospinal fluid. It is argued that the enlargement of the arachnoid cysts increases in volume with the unilateral valve mechanism. They are generally considered static formations because they do not tend to grow. A 16-year-old male patient was evaluated for headache attacks resistant to medical treatment. A giant arachnoid cyst located in the left temporal region was detected in the cranial MRI examination of the patient who had no history of head trauma or cranial operation in his medical history. In the MRI examination two years later, it was seen that the arachnoid cyst had almost completely disappeared. However, it was also found that it caused cambering in the temporal bone in the adjacent region. This finding supports that not all arachnoid cysts are static formations; they may have their internal dynamics and even cause shape changes in the surrounding tissues and even the cranium.

Keywords: arachnoid cyst, intracranial cyst, middle fossa cyst, temporal arachnoid cyst, giant arachnoid cyst

Introduction

Arachnoid cysts are formations that are generally diagnosed incidentally and are seen in approximately 1% of all intracranial space-occupying formations.¹⁻³ It is accepted that arachnoid cysts contain cerebrospinal fluid and generally do not change in size. Surgical treatment is not recommended for arachnoid cysts that do not show a significant compression effect and do not increase in size.³ It is argued that arachnoid cysts are mostly in communication with the subarachnoid space. There are also theories advocating that size-shifting arachnoid cysts increase with a unilateral valve mechanism.^{4,5} In this presentation, the patient evaluated for headache symptoms was diagnosed with a giant arachnoid cyst in the first MRI examination. In the MRI examination of the case 2 years later, it was observed that the arachnoid cyst had almost completely shrunk, and it was aimed to be discussed considering the literature.

Case Report

A 16-year-old male patient stated that he was diagnosed with an arachnoid cyst two years ago after complaining of a headache. It was learned that the case did not have any significant additional complaints and trauma history during this process. In the control MR examination, it was observed that the arachnoid cyst was reduced in size almost completely in the area where the arachnoid cyst was detected. In the first MRI examination of the case, it was

observed that there was an outward cambering in the cranium adjacent to the arachnoid cyst and a partial compression effect on the adjacent parenchymal structures. In the control MRI examination, it was noted that there was no improvement in the cranial camber, and the cranium remained asymmetrical.

Discussion

Arachnoid cysts are frequently detected incidentally and do not change in size at a very high rate. Surgical treatment of arachnoid cysts, which have a space-occupying effect and increase in size during radiological follow-up, is recommended.³ It is argued that arachnoid cysts that do not change size communicate with the subarachnoid space; therefore, the cyst content is the same as the cerebrospinal fluid. There are also theories stating that arachnoid cysts that increase in size have a unilateral valve mechanism through which the cerebrospinal fluid flows into the cyst.⁴⁻⁷ It should be accepted that arachnoid cysts, which do not have a unilateral valve mechanism, are therefore static formations. However, it cannot be defended that arachnoid cysts, which have a compression effect on the surrounding tissues and cranium, are static.

For this reason, these arachnoid cysts can be considered as cystic formations that can also have their own internal dynamics. The theory of the unilateral valve mechanism is not valid in arachnoid cysts with spontaneous shrinkage. After trauma, cases have been described that ruptured the

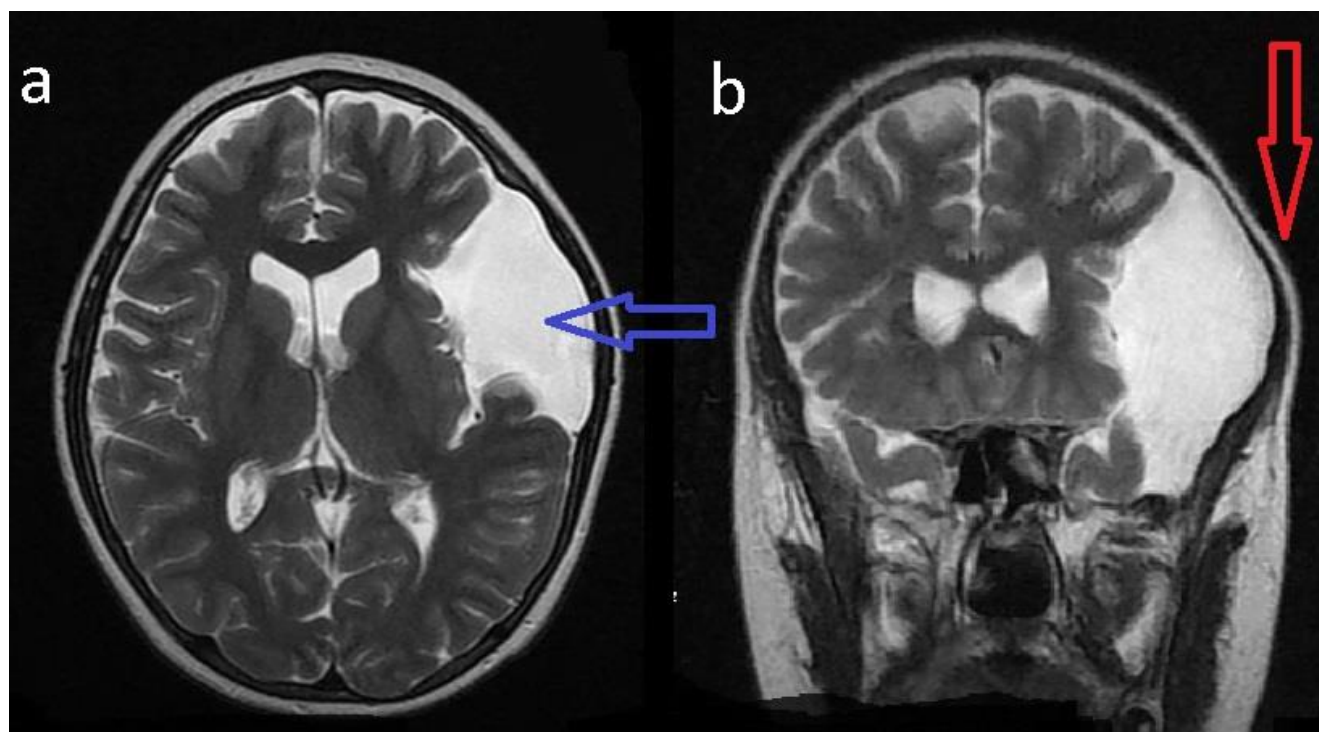


Figure 1. Giant arachnoid cyst and temporal lobe atresia are seen in the left temporal region (blue arrow) (a). Cambering of the temporal bone caused by the arachnoid cyst (red arrow) (b).

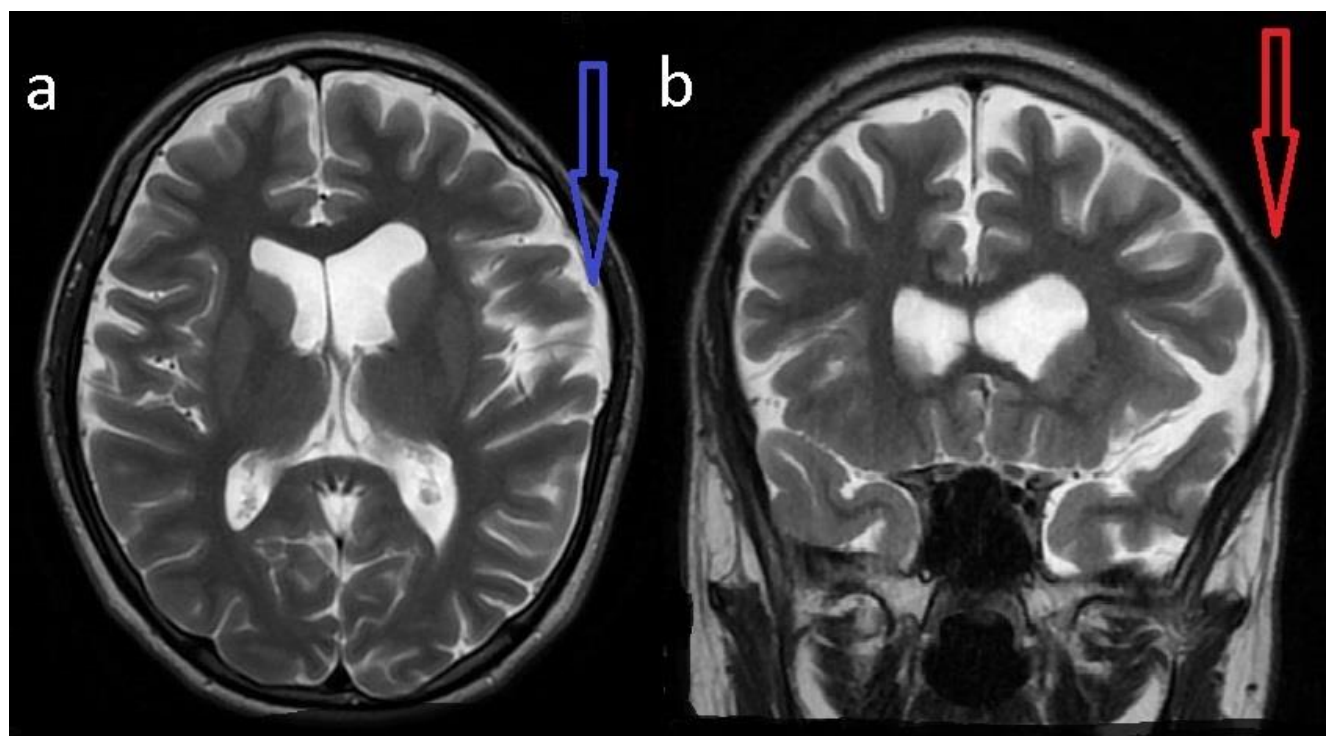


Figure 2. MRI examination 2 years later shows complete disappearance of the arachnoid cyst (blue arrow) (a). Cambering of the left temporal bone due to the arachnoid cyst (red arrow) (b).

wall structure of the arachnoid cyst and showed that the cyst content changed as a subdural effusion. However, in arachnoid cysts with a sudden reduction in size, it should be taken into account that bleeding findings may also occur, and sudden changes in intracranial dynamics may cause neurological deterioration by causing sudden changes in intracranial pressure.^{1,4,8} It can be thought that arachnoid cysts that gradually shrink in size may have their own

internal dynamics, the cyst content may be resorbed slowly through an opening in the cyst wall, or the cyst size may change in different processes with osmotic activities.

Arachnoid cysts should be considered static formations that do not show a very high size change. However, size changes can be seen in arachnoid cysts with their own internal dynamics. Arachnoid cysts with a significant increase or

decrease in size should be considered dynamic cysts, and radiological follow-up should be performed.

Conclusion

Arachnoid cysts may rarely disappear spontaneously. This finding suggests that some arachnoid cysts may also have dynamic features. Arachnoid cysts of varying sizes require more frequent radiological follow-up.

Acknowledgement

I would like to thank Omer Asan for his support during the writing of the article.

Conflict of Interest

There is no conflict of interest

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