SunKrist Publishing
Accelerate Scientific Knowledge in Open Access

SunKrist Journal of Neonatology and Pediatrics

Case Presentation *Volume: 3, Issue: 1* *Scientific Knowledge*

Congenital Externally Communicating Porencephaly Presenting as Hemiplegic Cerebral Palsy: Imaging Study of a Rare Condition

Al-Mosawi AJ[1,2*]

[1]Department of Pediatrics and Pediatric Psychiatry, Children Teaching Hospital of Baghdad Medical City, Iraq

[2]Head, Iraq Headquarter of Copernicus Scientists International Panel, Iraq

1. Abstract

Congenital porencephaly is a very rare condition characterized by cystic degeneration encephalomalacia and cysts or cavities within the brain. Porencephalic cysts have a variable size and site and therefore it result in a variable clinical presentations including asymptomatic, various forms of cerebral palsy, seizures and cognitive impairment. The disorder is heterogeneous in nature and the brain lesions can be caused by developmental abnormalities, infection, perinatal brain ischemia, trauma and hemorrhage. Genetic factors have been suggested and familial cases have been reported. Congenital porencephaly is generally classified into, internally communicating with the ventricle and externally communicating with the subarachnoid space. The aim of this paper is to report the rare finding of externally communicating porencephaly in a child with hemiplegic cerebral palsy.

2. Keywords: Congenital porencephaly; CT-scan; Hemiplegic cerebral palsy

3. Introduction

Congenital porencephaly is a very rare condition characterized by cystic degeneration encephalomalacia and cysts or cavities within the brain. Porencephalic cysts have a variable size and site and therefore it results in a variable clinical presentation including asymptomatic, various forms of cerebral palsy, seizures and cognitive impairment. The disorder is heterogeneous in nature and the brain lesions can be caused by developmental abnormalities, infection, perinatal brain ischemia, trauma and hemorrhage. Genetic factors have been suggested and familial cases have been reported. Congenital porencephaly is generally classified into, internally communicating with the ventricle and externally communicating with the subarachnoid space [1-7]. The aim of this paper is to report the rare finding of externally communicating porencephaly in a child with hemiplegic cerebral palsy.

4. Patients and Methods

The case of a five-year old girl with hemiplegic cerebral palsy caused by porencephaly is described and CT-scan images are presented.

5. Results

There was no history of birth asphyxia and family history was negative for a similar condition. The girl had spastic weakness on the left side of the body. She had gait abnormality mostly in form of dragging her left leg. She could take and carry weight with her right

***Corresponding author:** Al-Mosawi AJ, Department of Pediatrics and Pediatric Psychiatry, Children Teaching Hospital of Baghdad Medical City, Iraq, E-mail: almosawiAJ@yahoo.com

Received Date: January 09, 2021; **Accepted Date:** January 16, 2021; **Published Date:** January 18, 2021

arm for some time, but she could not take the same weight with her left arm and she could not prevent herself from using her right arm when she was encouraged to keep trying. The girl was able to take a pen to try copying a line and a circle, but she couldn't (Figure 1).

Figure 1: A five-year old girl with left hemiplegic cerebral palsy. She could take and carry weight with her right arm for some time, but she could not take the same weight with her left arm and she could not prevent herself from using her right arm when she was encouraged to keep trying. The girl was able to take a pen to try copying a line and a circle, but she couldn't.

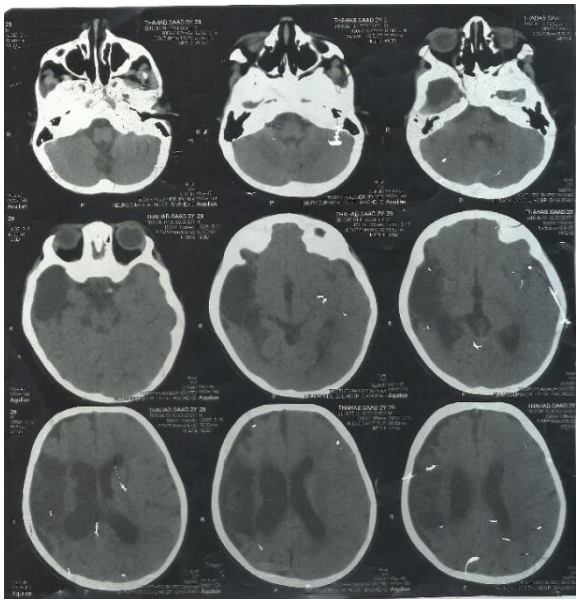

Figure 2A: Brain CT scan showed large right sided temporo-parietal gliotic changes with large communicating porencephaly cyst.

Brain CT scan (Figure 2A-2D) showed large right sided temporo-parietal gliotic changes with large communicating porencephaly cyst.

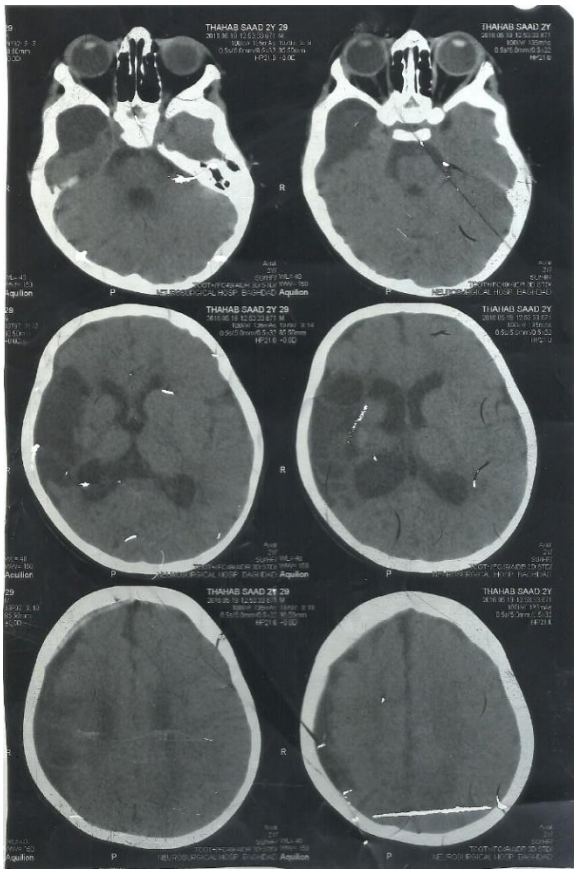

Figure 2B: Brain CT scan showed large right sided temporo-parietal gliotic changes with large communicating porencephaly cyst.

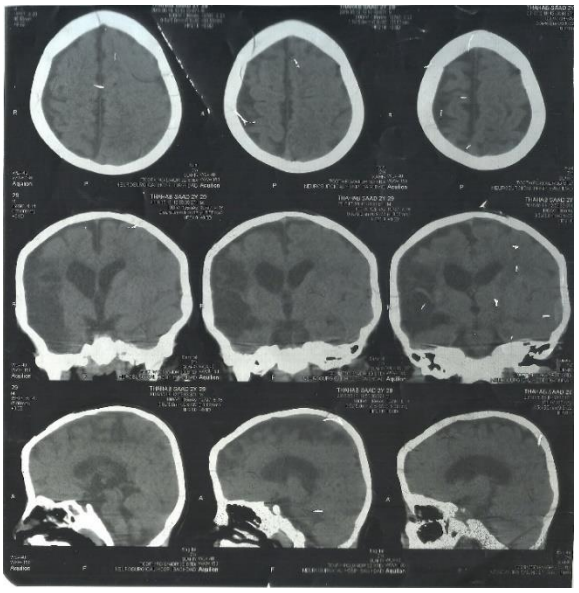

Figure 2C: Brain CT scan showed large right sided temporo-parietal gliotic changes with large communicating porencephaly cyst.

The decision was made to follow up the girl and

encouraging physiotherapy as her disability was not regarded to be significantly serious.

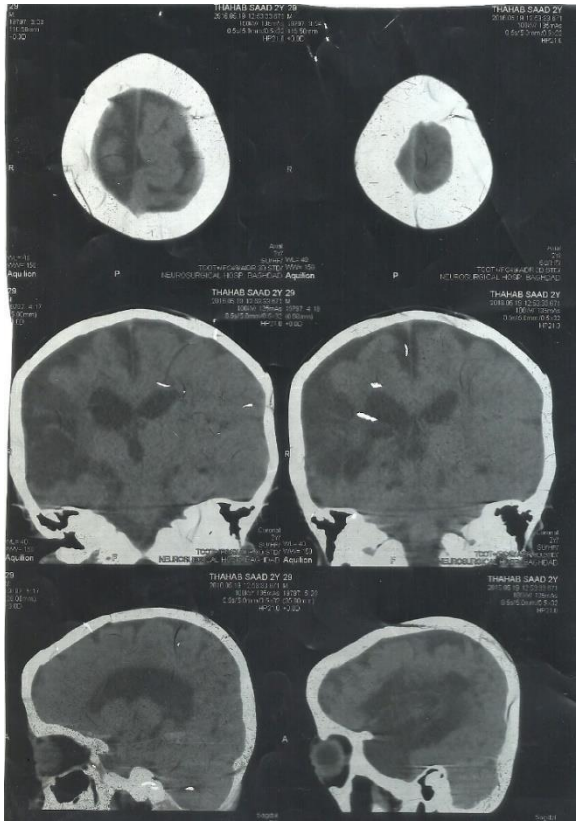

Figure 2D: Brain CT scan showed large right sided temporo-parietal gliotic changes with large communicating porencephaly cyst.

6. Discussion

In 1859, was first reported by Heschl who derived the term “porencephaly” from Greek roots meaning holes or cavities in the brain [1]. Before the 1970s, the diagnosis of congenital porencephaly was largely made using pneumoencephalography [2,6]. However, Ramsey RG, Huckman (1977) emphasized that CT scan is often the only imaging study necessary to make the diagnosis of Porencephaly. Porencephalic areas usually have a well-defined border, have the density of cerebrospinal fluid and do not change in density following the use of contrast medium enhancement [8].

Several authors emphasized the association of congenital porencephaly with hemiplegic cerebral palsy [9-12].

Claeys, Deonna and Chrzanowski (1983) 37 children who had congenital hemiparesis with brain CT-scan. They reported that four patients (11%) had normal CT-scan, nine patients (24%) had unilateral ventricular enlargement and 24 patients (63%) had a variety of cortical including cystic porencephaly in two patients [9].

7. Conclusion

The rare finding of externally communicating porencephaly in a child with hemiplegic cerebral palsy is documented.

References

1. Heschl R. Gehirn defect und Hydrocephalus. Prag Vjschr Prakt Heilk. 1859; 61: 59-74.
2. Martin JP, Williams D. Unusual cortical potentials in a case of porencephaly. Proc R Soc Med. 1939; 32: 1417-1419.
3. Naef RW. Clinical features of porencephaly; a review of thirty-two cases. AMA Arch Neurol Psychiatry. 1958; 80: 133-147.
4. Rosner S. Porencephaly and complicated cerebral palsy. Arch Pediatr. 1958; 75: 486-489.
5. Sillevis Smitt WG, Willemse J. A case of familial porencephalia. Folia Psychiatr Neurol Neurochir Neerl. 1959; 62: 355-361.
6. Pena J. [Porencephaly in childhood. Considerations on 20 cases, with special reference to pneumoencephalographic findings]. Rev Esp Pediatr. 1961; 17: 1-23.
7. Al-Mosawi AJ. The pattern of cerebral palsy in Iraqi children. 1st ed., Saarbrücken; LAP Lambert Academic Publishing: 2019.
8. Ramsey RG, Huckman MS. Computed tomography of porencephaly and other cerebrospinal fluid-containing lesions. Radiology. 1977; 123: 73-77.
9. Claeys V, Deonna T, Chrzanowski R. Congenital hemiparesis: the spectrum of lesions. A clinical and computerized tomographic study of 37 cases. Helv Paediatr Acta. 1983; 38: 439-455.
10. Humphreys P, Whiting S, Pham B. Hemiparetic cerebral palsy: clinical pattern and imaging in prediction of outcome. Can J Neurol Sci. 2000; 27: 210-219.

11. Yoneda Y, Haginoya K, Arai H, Yamaoka S, Tsurusaki Y, Doi H, et al. De novo and inherited mutations in COL4A2, encoding the type IV collagen α2 chain cause porencephaly. Am J Hum Genet. 2012; 90: 86-90.

12. Kara M, Ekiz T, Tiftik T, Özel S, Özçakar L. Mirror movements in patients with hemiplegic cerebral palsy and porencephaly: when one hand becomes two hands. Minerva Pediatr. 2015; 67: 105-106.

Citation: Al-Mosawi AJ. Congenital Externally Communicating Porencephaly Presenting as Hemiplegic Cerebral Palsy: Imaging Study of a Rare Condition. SunKrist J Neonat Pediatr. 2021; 3: 1013.