Acta Scientific Neurology (ISSN: 2582-1121)

Volume 3 Issue 6 June 2020

Case Report

Spontaneous Resolution of Hydrocephalus in Patient with Subarachnoid Hemorrhage: A Case Report

Amirabbas Ghasemi[1], Amir Kamalifar[1]* and Samar Kamalifar[2]

[1]*Department of Neurosurgery, Urumia University of Medical Sciences, Azarbayjan-e Gharbi, Iran*

[2]*Student Research Committee, Arak University of Medical Sciences, Markazi, Iran*

***Corresponding Author:** Amir Kamalifar, Department of Neurosurgery, Urumia University of Medical Sciences, Azarbayjan-e Gharbi, Iran.

Received: March 28, 2020

Published: May 07, 2020

Abstract

Acute hydrocephaly is a most prevalent complication of subarachnoid hemorrhage (SAH) and intraventricular hemorrhage (IVH), but spontaneous resolution is a rare condition. We report spontaneously resolution of hydrocephaly in 24 years old female with non-traumatic SAH.

Keywords: Obstructive Hydrocephalus; Subarachnoid Hemorrhage; Intraventricular Hemorrhage

Introduction

Hydrocephalus is an abnormal, excessive accumulation of cerebrospinal fluid (CSF) within the cerebral ventricles and/or subarachnoid space, that due to an imbalance between production and absorption of the CSF and to an obstruction of the flow of CSF [1]. Spontaneous resolution of hydrocephalus is a rare condition and we find a few reports and major of them, report the neonatal obstructive hydrocephalus resolved spontaneously [2-4]. Here we present a post subarachnoid hemorrhage hydrocephalus resolution in young woman.

Case Presentation

24 years old female admitted to emergency department with vomiting episodes and low level of consciousness, initially intubated, in physical examination pupils were in normal size with reactivity to light, cervical ruder tests were positive, plantar reflex was upward, for evaluation of low consciousness, spiral brain CT scan was done and result showed SAH and IVH (fisher grad 2) and no evidence of hydrocephalus. Patient admitted to ICU, evaluated for aneurysm and control brain CT for evidence of hydrocephaly and vasospasm, in repeated CT, patient have evidence of hydrocephaly but because of improvement of consciousness; we did not perform any surgical procedure. In later CT, hydrocephalus resolved spontaneously (Figure 1), brain CT angiography not reported any aneurismal or vascular lesion and patient discharged with normal brain CT scan and normal consciousness without any neurological deficit. We referred the patient to digital subtraction angiography to evaluate for missed aneurysm or vascular malformation.

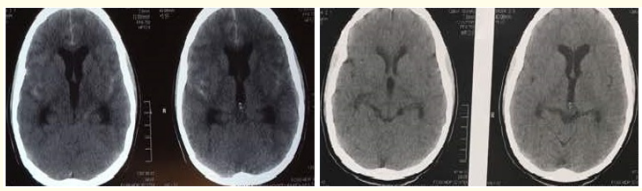

Figure 1: a, b: brain CT without a contract in axial cut shows SAH and beginning of ventricle dilation and hydrocephaly, c, d: brain control CT of same patient resolution of SAH and ventricular dilation (hydrocephaly).

Discussion

SAH is subtype of central nervous system. Hematoma between arachnoid layer and brain tissue [2], estimate 5% of all hematoma. SAH and this type of hematoma has a high mortality rate [3]. Many condition follow the SAH, aggregation of blood product in subarachnoid space and intraventricular, disturbed CSF normal dynamic pattern and ventricular dilatation and acute hydrocephaly were expected, communicating and non-communicating hydrocephaly can be seen in SAH and overall incidence between 15 - 37% [3,4] 4th ventricle and aqueductal blood clot, can raised intraventricular pressure in 3th and lateral ventricles and push the clot downward

and resolve hydrocephaly spontaneously. this theory can define this special rare condition [5,6], in online source we find less than 10 case reports about this situation and almost most of them were in infant or child under age 5, Our case demonstrates that spontaneous resolution of obstructive hydrocephaly in patient with SAH and intra ventricular hemorrhage under conservative treatment. However, when hydrocephaly was occurred treatment should be considered to prevent irreversible brain injury.

Conclusion

Obstructive hydrocephaly can be resolved in SAH or IVH and resolved all sign and symptom of patient, but this is rare condition and delay in treatment, have catastrophic brain damage.

Compliance with Ethical Guidelines

All phases of this research have been confirmed by the ethical committee of Urumia University of Medical Sciences (Code Number: 4143/9806).

Funding

This research was supported by Urumia University of Medical Sciences.

Authors Contributions

All authors contributed in designing, running and writing all parts of the research.

Conflict of Interest

The authors declared no conflict of interest.

Acknowledgements

We really appreciate Fooziyeh Samadi for reviewing this article.

Bibliography

1. Braitman RE and Friedman M. "Spontaneous resolution of acute hydrocephalus. A case report". *Clinical Pediatrics* 21.12 (1982): 757-758.

2. G Xi., *et al*. "Mechanisms of brain injury after intracerebral haemorrhage". *Lancet Neurology* 5.1 (2006): 53-63.

3. S Yang., *et al*. "The role of complement C3 in intracerebral hemorrhage-induced brain injury". *Journal of Cerebral Blood Flow and Metabolism* 26.12 (2006): 1490-1495.

4. Inamura T., *et al*. "Resolving obstructive hydrocephalus from AVM". *Journal of Clinical Neuroscience* 8.6 (2001): 569-570.

5. Nomura S., *et al*. "Transient hydrocephalus due to movement of a clot plugging the aqueduct". *Computerized Medical Imaging and Graphics* 21.6 (1997): 351-353.

6. R Lipina., *et al*. "Relation between TGF-beta 1 levels in cerebrospinal fluid and ETV outcome in premature newborns with posthemorrhagic hydrocephalus". *Child's Nervous System* 26.3 (2010): 333-341.

7. Diringer MN., *et al*. "Hydrocephalus: a previously unrecognized predictor of poor outcome from supratentorial intracerebral hemorrhage". *Stroke* 29.7 (1998): 1352-1357.