Scholars Journal of Medical Case Reports
Abbreviated Key Title: Sch J Med Case Rep
ISSN 2347-9507 (Print) | ISSN 2347-6559 (Online)
Journal homepage: https://saspublishers.com

OPEN ACCESS

Urology

Posterior Reversible Encephalopathy Syndrome: A Rare Complication of Nephrectomy

Hamedoun Larbi[1*], Zhim Imane[2], Mrabti Mohammed[1], F'adama Conde[1], Lamghari Aziz[1], Boukhlifi Younes[1], El Bahri abdessamad[1], Louardi Nabil[1], Ameur Ahmed[1], Alami Mohammed[1]

[1]Urology Department, Military Hospital of Instruction Mohamed V, Hay Ryad - 10100 Rabat, Morocco
[2]Pharmacy Division, Military Hospital of Instruction Mohamed V, Hay Ryad - 10100 Rabat, Morocco

DOI: 10.36347/sjmcr.2023.v11i09.028 | **Received:** 09.07.2023 | **Accepted:** 18.08.2023 | **Published:** 19.09.2023

***Corresponding author:** Hamedoun Larbi
Urology Department, Military Hospital of Instruction Mohamed V, Hay Ryad - 10100 Rabat, Morocco

Abstract **Case Report**

Posterior reversible encephalopathy syndrome (PRES) is a radio clinical entity associating a reversible central nerv system involvement with a common brain-imaging feature. There is a great variability in the clinical presentation of syndrome and in the features of its sometimes-atypical imaging appearance. PRES is an unusual neurological complica occurring during pregnancy or in the post-partum period, other than any pre-existing pathology occurred. Vasog oedema due to the rupture of the blood-brain barrier seems to be its main cause. We present here the 1st UNUSUAL cas PRES complicating total nephrectomy for destroyed kidney on pyonephrosis in our structure.

Keywords: Posterior reversible encephalopathy Syndrome (PRES), arterial hypertension, Headache, magnetic resonance imaging.

INTRODUCTION

Reversible posterior encephalopathy syndrome (PRES) is a rare, little-known and underdiagnosed clinico-radiological syndrome, diagnosis evoked in patients presenting with neurological symptoms such as headaches, visual disturbances [1], disorders of consciousness [2] or seizures with a generally favourable course and confirmed by magnetic resonance imaging (MRI)´.

CLINICAL CASE

58-year-old women, diabetic on oral antidiabetics and hypertensive on bitherapy, admitted to the emergency department in a state of shock (BP= 60/40 mm hg), Questioning and clinical examination revealed a fever of 40°C with chills for 48 hours associated with progressively evolving right lower back pain resistant to analgesics and the presence of a large palpable kidney.

Biological tests showed CRP at 328mg/L, pro-calcitonin at 3.6 ng/ml, WBC at 18,000 and impaired renal function with creatinine at 35 mg/L and GFR at 17-ml/min/1.73 m2, and an abdominal scan diagnosed pyonephrosis.

Therapeutically, the patient was initially conditioned and treated with probabilistic antibiotics before undergoing total nephrectomy, as the kidney was almost destroyed.

The postoperative stay was completely normal until the fourth day, when the patient presented with a hypertensive spike to 200/100 mm hg, headache and bilateral painless blindness with a completely normal ophthalmological examination. Subsequently, the patient presented with a generalized tonic-clonic convulsion with a 5-minute post-critical coma, leading to a brain MRI that revealed posterior reversible encephalopathy syndrome (PRES) (Figure 1).

The patient benefited from strict monitoring of her vital parameters in intensive care, especially her Blood Pression treated with nicardipine syringe pump with progressive reduction of blood pressure figures, and from antiepileptic treatment.

The evolution was marked by a progressive recovery of vision from H12 onwards, with complete recovery. Her neurological examination was normal and she was transferred to the urology department after 3 days of hospitalization in the intensive care unit.

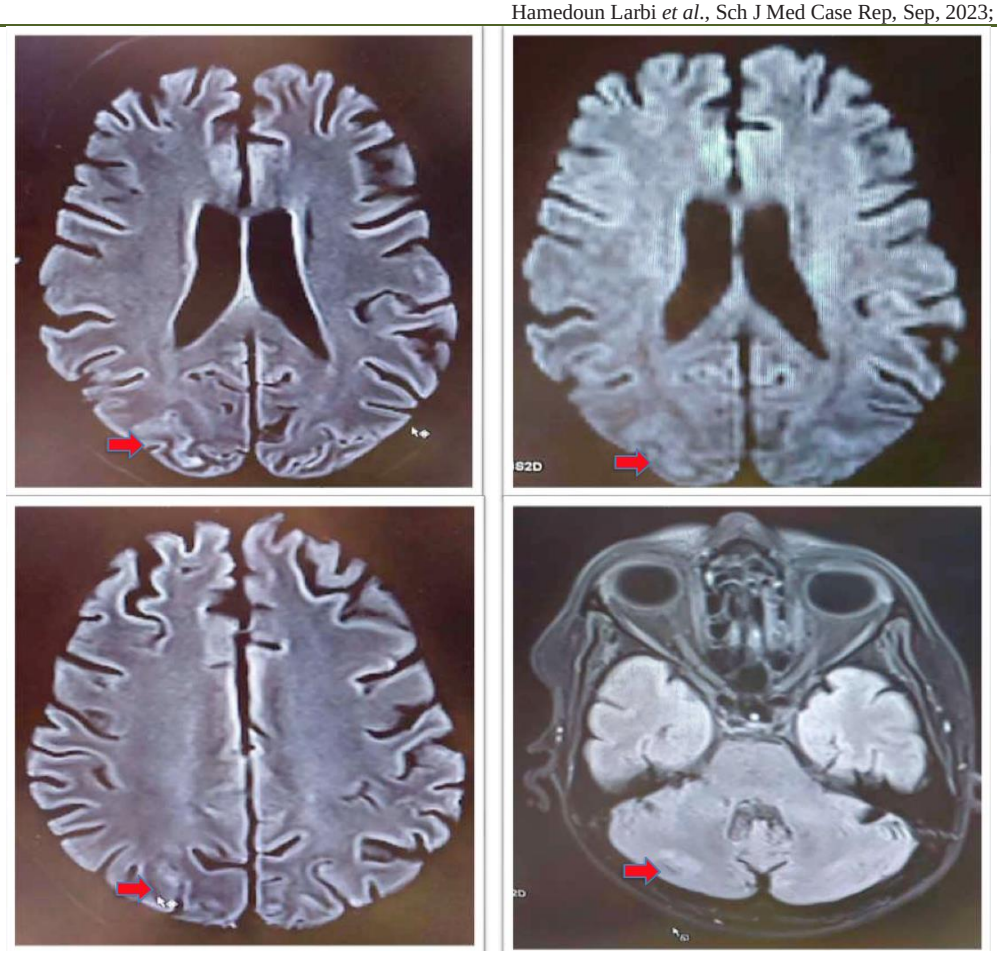

Figure 1: Brain magnetic resonance imaging (MRI): abnormal occipital cortico-subcortical signal in favor of PRES

DISCUSSION

Reversible posterior encephalopathy syndrome or PRES is a clinico-radiological entity that was defined some twenty years ago by the team of Hinchey *et al*., [3].

PRES manifested by acute or sub acute neurological symptoms such as: headaches, visual disturbances and or an isolated convulsive seizure like our patient.

There are also severe forms with massive haemorrhage or oedema of the posterior fossa leading to hydrocephalus or brainstem compression [4].

Radiologically, cerebral MRI especially diffusion sequence is the gold standard for the diagnosis of posterior reversible encephalopathy syndrome. The most commonly observed anomaly is cerebral oedema without infarction. It typically affects bilaterally and symmetrically the subcortical white matter in the posterior regions of the cerebral hemispheres, and in particular the parieto-occipital regions [5, 6].

Occasionally, lesions are atypically distributed: non-cortico-subcortical involvement of deep white matter (internal capsule, external capsule, semioval center, corpus callosum) and basal ganglia. Involvement of white matter is constant, but gray matter is affected in only 30% of cases [7].

Treatment: Controlling hypertension is the most important aspect of treatment, the usual antihypertensive agents are used, calcium channel blockers (nicardipine or diltiazem), beta-blockers (labetolol in particular) and diuretics.

The therapeutic goal is to maintain a mean arterial pressure between 105 and 125 mm Hg, without reducing it by more than 25% during the first hour [3, 5].

General symptomatic measures are also essential, such as correction of electrolyte disorders, coagulopathy, airway protection and mechanical ventilation if necessary. In the event of convulsive seizures, anti-epileptic treatment must be urgently. Benzodiazepines (clonazepam or diazepam) should be administered intravenously as a first-line treatment. In the second line, or in the event of malaise, fosphenytoin or phenobarbital, Valproic Acid is a therapeutic option, particularly if heart failure, in the elderly and in intensive neurological care unit.

Magnesium sulphate is recommended for pregnant women. It has a vasodilatory effect, increases cerebral blood flow and prevents ischemic lesions, which can lead to convulsive seizures. For refractory seizures, the agents of choice are propofol, midazolam and thiopental.

Anti-edema treatment and the administration of corticosteroids must be discussed on a case-by-case basis and may be beneficial in certain situations [8].

Usually, the evolution in cases of reversible posterior encephalopathy syndrome is favorable under appropriate treatment. Clinical signs resolve after 3 to 8 days, which was fortunately the case for our patient. However, in 5 to 12% of cases, the évolution may be unfavorable with persistent neurological sequelae or may even lead to death [9, 10].

CONCLUSION

PRES is an unusual neurological complication that occurs in the absence of any pre-existing pathology. It's a syndrome that's still little-known, though relatively frequent. Its prognosis can be appalling if it is not recognized and treated in time. So it's vital to be aware of it and to be vigilant.

REFERENCES

1. Burns, J. R., & Gregory, J. G. (1977). Osteomyelitis of the pubic symphysis after urologic surgery. *The Journal of Urology*, *118*(5), 803-805.
2. Charles, P., Ackermann, F., Brousse, C., Piette, A. M., Blétry, O., & Kahn, J. E. (2010). Spontaneous streptococcal arthritis of the pubic symphysis. *La Revue de medecine interne*, *32*(7), e88-90.
3. Hinchey, J., Chaves, C., Appignani, B., Breen, J., Pao, L., Wang, A., ... & Caplan, L. R. (1996). A reversible posterior leukoencephalopathy syndrome. *New England Journal of Medicine*, *334*(8), 494-500.
4. Fugate, J. E., & Rabinstein, A. A. (2015). Posterior reversible encephalopathy syndrome: clinical and radiological manifestations, pathophysiology, and outstanding questions. *The Lancet Neurology*, *14*(9), 914-925.
5. Servillo, G., Bifulco, F., De Robertis, E., Piazza, O., Striano, P., Tortora, F., ... & Tufano, R. (2007). Posterior reversible encephalopathy syndrome in intensive care medicine. *Intensive care medicine*, *33*, 230-236.
6. Stott, V. L., Hurrell, M. A., & Anderson, T. J. (2005). Reversible posterior leukoencephalopathy syndrome: a misnomer reviewed. *Internal medicine journal*, *35*(2), 83-90.
7. Servillo, G., Bifulco, F., De Robertis, E., Piazza, O., Striano, P., Tortora, F., ... & Tufano, R. (2007). Posterior reversible encephalopathy syndrome in intensive care medicine. *Intensive care medicine*, *33*, 230-236.
8. Mukherjee, P., & McKinstry, R. C. (2001). Reversible posterior leukoencephalopathy syndrome: evaluation with diffusion-tensor MR imaging. *Radiology*, *219*(3), 756-765.
9. Singhal, A. B., Kimberly, W. T., Schaefer, P. W., & Hedley-Whyte, E. T. (2009). Case 8-2009: a 36-year-old woman with headache, hypertension, and seizure 2 weeks post partum. *New England Journal of Medicine*, *360*(11), 1126-1137.
10. Fugate, J. E., Wijdicks, E. F., Parisi, J. E., Kallmes, D. F., Cloft, H. J., Flemming, K. D., ... & Rabinstein, A. A. (2012). Fulminant postpartum cerebral vasoconstriction syndrome. *Archives of neurology*, *69*(1), 111-117.