POSTERIOR REVERSIBLE ENCEPHALOPATHY SYNDROME IN PEDIATRICS

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121 ICNC 2022
17th INTERNATIONAL CHILD NEUROLOGY CONGRESS
ANTALYA, TURKEY | OCTOBER 3-7, 2022

INTRODUCTION

Posterior reversible encephalopathy syndrome (PRES) is characterized by acute neurological signs and symptoms and neuroimaging findings that reflect vasogenic edema. There are no specific diagnostic criteria, but it should be suspected against acute or subacute neurological signs accompanied by typical images, which are usually reversible once arterial hypertension is controlled.

OBJECTIVE

To report three pediatric cases of posterior reversible encephalopathy (PRES).

METHOD

Retrospective and descriptive review, based on digital patient medical records.

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RESULTS

Pacient 1

8-year-old girl with diffuse pontine glioma. After a biopsy, patient presented acute deterioration of consciousness, in the context of HTN. MRI showed vascular congestion and leptomeningeal enhancement. (Figure 1) With a diagnosis of PRES, anti-HTN treatment was implemented, reversing the acute symptoms. (Figure 2).

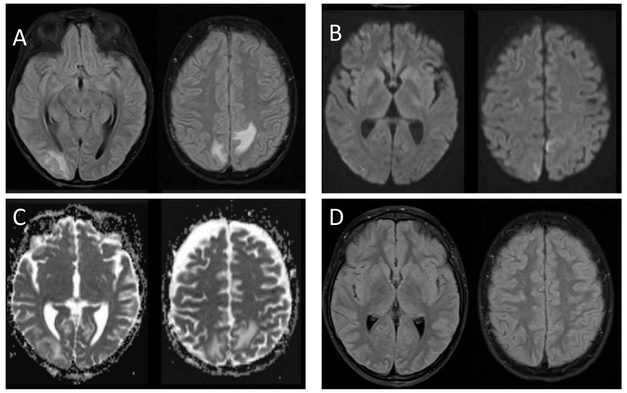


Figure 1 A, B, C- FLAIR-weighted MRI, DWI, ADC. Hyperintense lesions on FLAIR in right occipital subcortical and paramedian posterior parietal topography, without diffusion restriction. D- FLAIR-weighted control MRI showing full recovery.

Pacient 2

15-year-old girl with hemorrhagic stroke secondary to left cerebellar arteriovenous malformation (AVM) which was partially embolized and resected with evacuation of the cerebellar hematoma. Twenty-five days later, patient presented a seizure and HTN was recorded. On MRI, areas of bilateral upper parietal cortico-subcortical edema were observed. Four antihypertensive drugs were required for pressure control. (Figure 3).

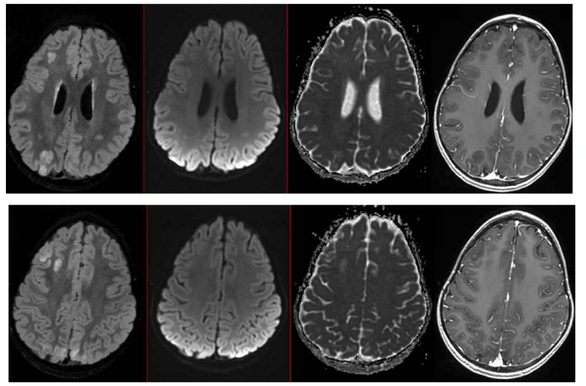
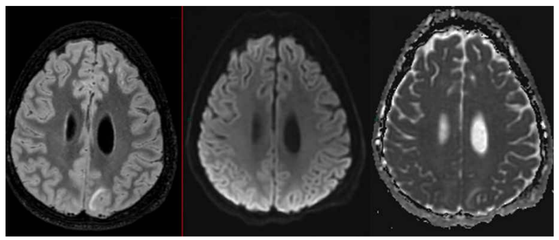


Figure 3- Weighted MRI in FLAIR, DWI, ADC and T1+Gd. Hypertensive lesions on FLAIR in posterior, parieto-occipital and superior frontal subcortical topography, without diffusion restriction or post-gadolinium enhancement.

Pacient 3

12-year-old boy presenting debut diabetic ketoacidosis during intercurrent infection. Sustained hypertension and later GCT seizure were recorded. MRI showed predominantly posterior hyperintense cortico-subcortical lesions, compatible with PRES. Antihypertensive treatment resolved neurological symptoms. (Figure 4)



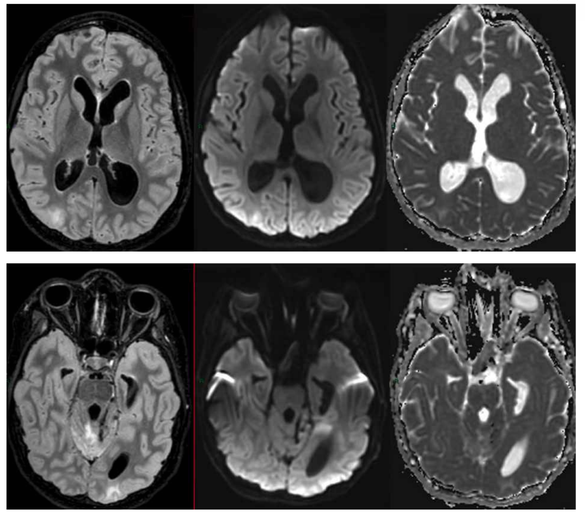


Figure 4- FLAIR-weighted MRI, DWI, ADC. Hypertensive lesions on FLAIR in left occipital subcortical and paramedian posterior parietal topography, without diffusion restriction.

CONCLUSION

PRES is of low prevalence in the pediatric population which can delay diagnosis. Although no specific diagnostic criteria have been established, both acute and subacute clinical characteristics have been described which, associated with neuroimaging findings in the context of HTN, suggest vasogenic edema.

Proper management of hypertension favors symptom reversal, as observed in all 3 patients described.

No reported cases of PRES associated with AVM were found in the literature.

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