

Background

Uncontrolled hypertension is known to be associated with posterior reversible encephalopathy syndrome (PRES). PRES is a disruption in blood flow to the posterior region resulting in seizure, headache, visual loss, and/or altered mental status¹. The pathophysiology of PRES is thought to be due to cerebral hyperperfusion or hypoperfusion². There are limited cases of PRES in the setting of hypoperfusion; specifically, a case of PRES after postpartum hemorrhage.

Clinical Presentation

A 32-year-old female with postpartum complications of placenta accreta resulting in hemorrhage, multiorgan failure, and PRES. Significant past medical history consists of polycystic ovarian syndrome requiring in vitro fertilization. The patient presented for induced vaginal delivery with no evidence of elevated blood pressure during pregnancy. A successful vaginal delivery was ultimately complicated by postpartum hemorrhage and hypovolemic shock. She became unresponsive and required emergent intubation prior to placental extraction with dilation and curettage. The patient received multiple tocolytics along with intrauterine balloon tamponade to cease the bleeding. Several units of FFP, platelets, and cryoprecipitate were transfused. CT head resulted no acute intracranial abnormalities.

Once stabilized, patient was transferred to a tertiary center care. Further imaging with MRI head w/wo contrast resulted ischemia in the bilateral occipital regions consistent with PRES. After several days in the ICU, the patient continued to improve and was discharged to a facility for further physical therapy.

Hospital Course

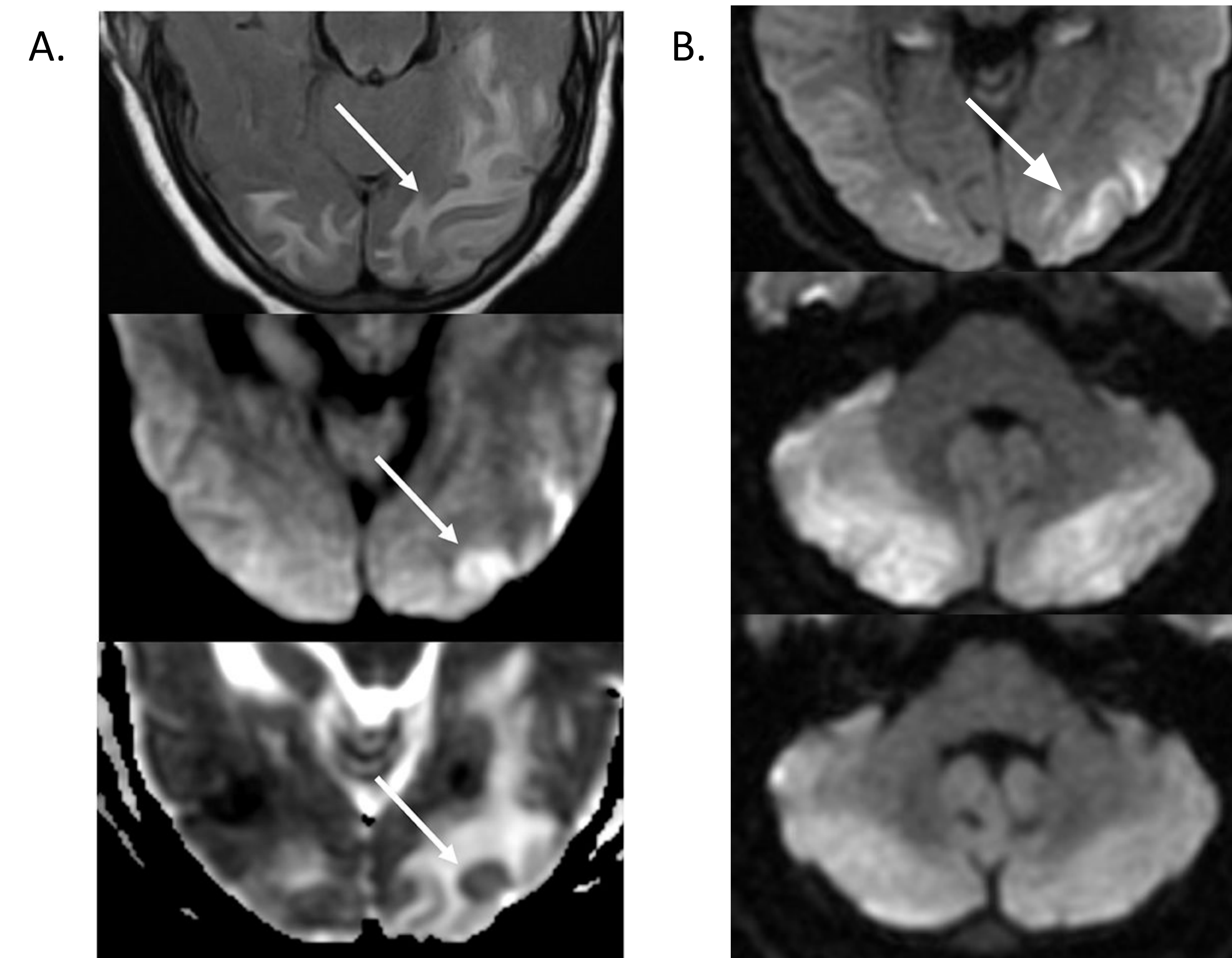


Image A. MRI T2 Flair, DWI, and ADC map example of uncontrolled hypertension showing bilateral posterior and occipital lobe edema consistent for PRES⁶.

Image B. Case specific initial MRI T2 Flair with left occipital lobe edema present and improvement in edema noted in the cerebellar region in DWI 7 days later, consistent with PRES.

Etiology	Present	Not Present
Hypertension		X
Renal Disease		X
Autoimmune Disease		X
Hypotension	X	
Organ Dysfunction	X	

Table 1. Most common causes of PRES in descending order. Marked present or not present in this particular case.

Discussion

- Pregnancy alters the cerebral perfusion autoregulation system with an increase in plasma volume up to 45%⁵. Postpartum hemorrhage resulting in hypovolemic shock and requiring blood transfusions further induces vasoconstriction resulting in cerebral hypoperfusion.
- In this case, a combination of autoregulation dysfunction and sudden hypoperfusion resulted in altered mental status and confirmed PRES on MRI.
- The purpose of this report is to increase awareness of varying presentations of PRES and highlight the importance of prompt recognition.

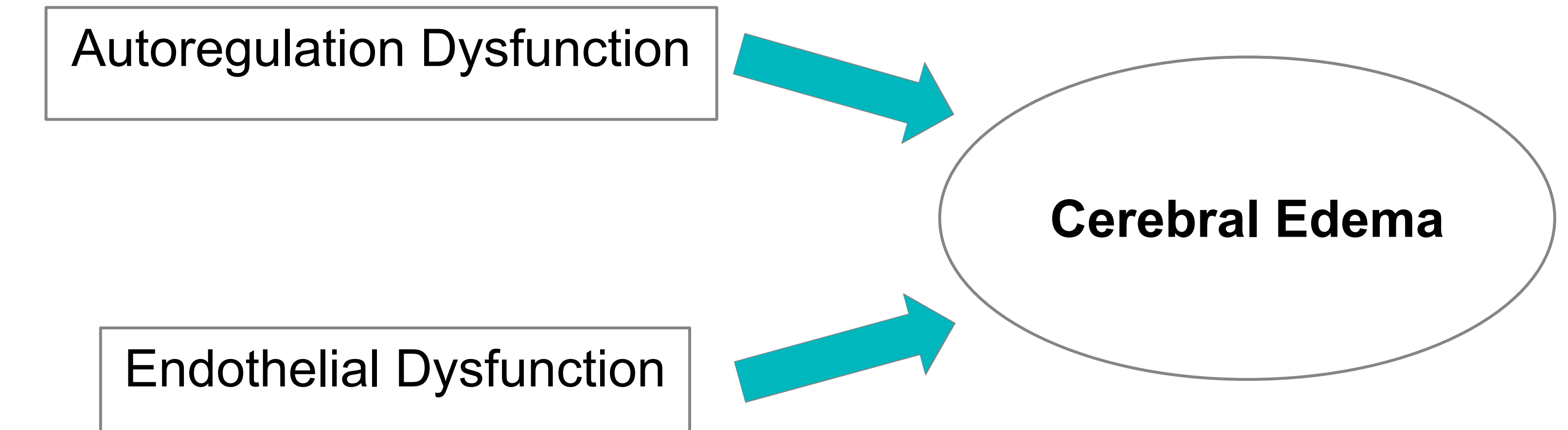


Figure 1. Proposed pathophysiology of posterior reversible encephalopathy syndrome.

References

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