

INTRODUCTION

Posterior reversible encephalopathy (PRES) is a clinical radiographic syndrome diagnosed when we have characteristic brain imaging findings along with clinical findings of headache, change in mental status, and/or seizures.

The exact pathophysiology remains elusive, and various medical conditions have been associated with causing PRES, including hypertension and different immunosuppressive or immunomodulatory drugs.

We describe a case of press syndrome in a colon cancer patient on Bevacizumab therapy.

CASE PRESENTATION

An 86-year-old female was initially seen outpatient for weakness, intermittent nausea, and constipation.

Routine labs revealed normocytic anemia.

Colonoscopy was pursued. It revealed a mass in the transverse colon, and biopsy confirmed adenocarcinoma.

Positron emission tomography (PET) scan was positive for metastatic disease.

Patient was started on a chemotherapy regimen that included Fluorocil and Leucovorin.

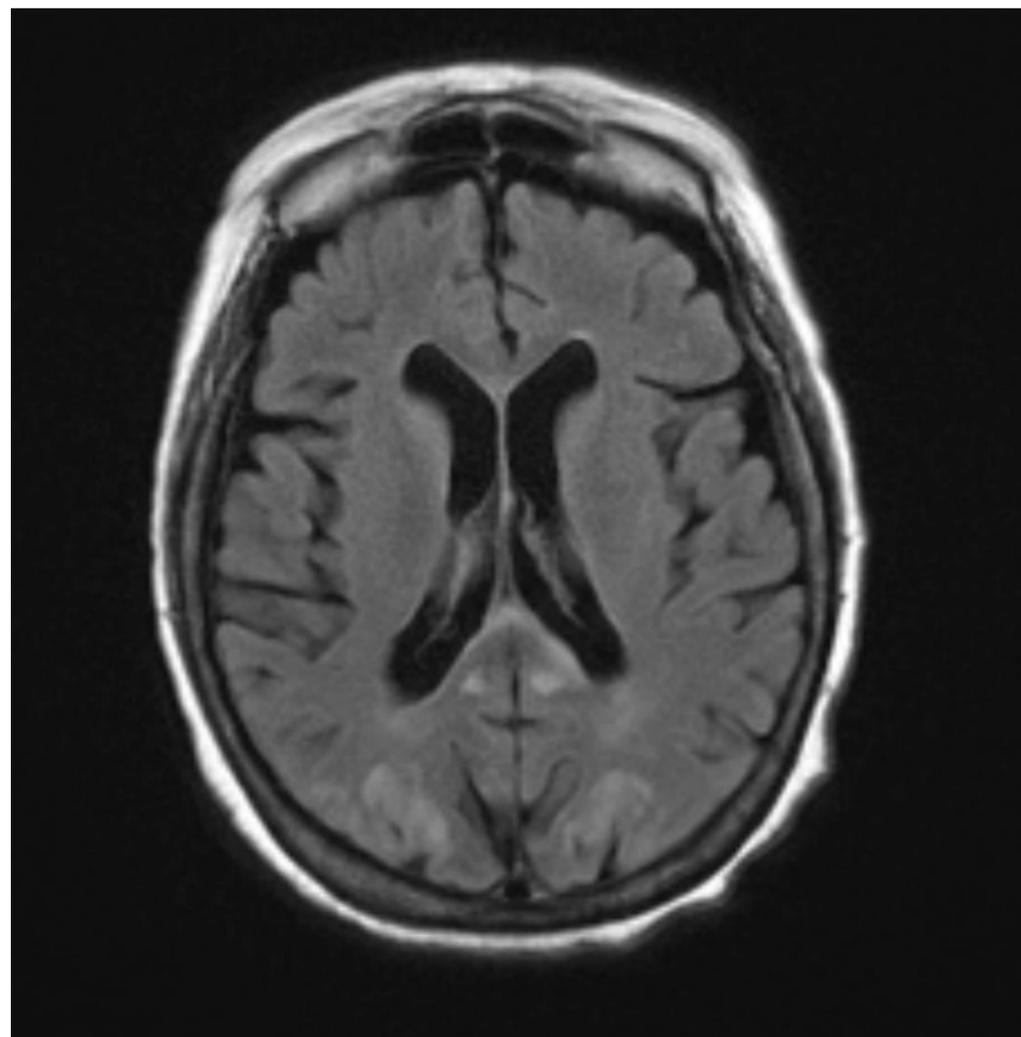
Bevacizumab was added during the second cycle. Approximately 20-days after the second dose of Bevacizumab, she had a sudden change in mental status and was found down.

In the Emergency Department, patient had a blood pressure of 235/95 mmHg while the remainder of the vital signs were normal.

An acute stroke was suspected initially.

CT head did not reveal any abnormalities.

MRI showed bilateral symmetric posterior distribution edema involving medial parietal lobes, occipital lobes, thalami, and cerebellum consistent with PRES.



MANAGEMENT

The patient was treated with aggressive blood pressure control by diuretics.

By day 3 of hospital admission, her mental status improved and eventually returned to baseline.

The oncologist also evaluated the patient and decided to remove Bevacizumab from future treatment plans.

CONCLUSIONS

PRES is a rare but serious complication of Bevacizumab. Thus, clinicians must have high clinical suspicion, especially in cases of deteriorating mental function in patients with a history of Bevacizumab therapy

DISCUSSION

PRES is being increasingly recognized due to advancements in brain imaging as diagnosis requires symptoms of neurotoxicity with consistent CT or MRI findings (1).

The main clinical features of PRES are headache, stupor, change in mental status, seizures, focal neurological deficits, and/or visual disturbances (2).

Symptoms are usually temporary and gradually improve over days to weeks but are sometimes persistent (3).

Neurological changes associated with PRES are occasionally seen on CT scans but are better visualized on MRI. Classical findings include edema of white matter, especially in the posterior cerebral hemispheres bilaterally.

Common side effects of Bevacizumab include hypertension, proteinuria, and gastrointestinal perforation (4). Bevacizumab induced hypertension may also predispose to PRES as hypertension itself is an independent risk factor for PRES.

Currently, no specific guidelines exist for blood pressure control immediately after symptoms onset. However, the overall prognosis is good, with most patients recovering completely (5, 6).

REFERENCES

1. Sudulagunta SR, Sodalagunta MB, Kumbhat M, Settikere Nataraju A. Posterior reversible encephalopathy syndrome (PRES). *Oxford Medical Case Reports*. 2017;2017(4).
2. Fugate JE, Rabinstein AA. Posterior reversible encephalopathy syndrome: clinical and radiological manifestations, pathophysiology, and outstanding questions. *The Lancet Neurology*. 2015;14(9):914-25.
3. Hinchey J, Chaves C, Appignani B, Breen J, Pao L, Wang A, et al. A Reversible Posterior Leukoencephalopathy Syndrome. *New England Journal of Medicine*. 1996;334(8):494-500. doi: 10.1056/nejm199602223340803. PubMed PMID: 8559202.
4. Sakaeda T, Tamon A, Kadoyama K, Okuno Y. Data mining of the public version of the FDA Adverse Event Reporting System. *International journal of medical sciences*. 2013;10(7):796.
5. Sawaya R, Radwan W, Hammoud S. Benign reversible encephalopathy syndrome after bevacizumab therapy for metastatic ovarian cancer. *Medical oncology*. 2014;31(2):1.
6. Singer S, Grommes C, Reiner AS, Rosenblum MK, DeAngelis LM. Posterior reversible encephalopathy syndrome in patients with cancer. *The oncologist*. 2015;20(7):806.