Case Report

A case report of all-trans retinoic acid-induced pseudotumor cerebri in an adult patient of acute promyelocytic leukemia

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INTRODUCTION

All-trans retinoic acid (ATRA), a derivative of vitamin A, is the first line drug for acute promyelocytic leukemia (APL). When combined with anthracycline, a complete remission (CR) rate of >90% is obtained in the patients with APL.1,2 At the same time, ATRA is also associated with various side effects, including some life threatening conditions. The common side effects include skin problems (dryness, itching, peeling, and photo sensitivity), transient elevation in liver enzymes, hyperlipidemia, headache, and hypothyroidism.3 Other adverse effects include hypercalcemia, myocardial infarction, corneal deposits, Fournier’s gangrene, scrotal ulcerations, Sweet’s syndrome, APL differentiation syndrome, and pseudotumor cerebri (PTC). PTC or idiopathic intracranial hypertension is characterized by elevated intracranial pressure in the absence of infection, vascular abnormality, hydrocephalus, space occupying lesion or alteration in the level of consciousness.4 There have been few reports of PTC with ATRA treatment in the pediatric patients;5,6 however, it is much rarer in the adults.7

CASE REPORT

A 32-year-old male patient presented to our hospital with fever and gum hyperplasia from 2 months. On examination, the patient had severe pallor and bleeding from the gums. Hematological investigations revealed hemoglobin of 5.7 g/dl, white blood cell count - 22,400/mm³; platelet count - 40,000/mm³; the differential count 40% blast cells,
A modified Dandy criterion is used for the diagnosis of PTC. The manifestations of PTC include headache, nausea, vomiting, pulsatile tinnitus, diplopia, and papilledema, with a normal CSF composition and brain imaging. Progressive optic atrophy and even blindness may occur if it is left untreated. There have been reports that have confirmed that PTC may occur in the absence of papilledema. Visani et al. reported that PTC is a complication of ATRA therapy occurring predominantly in pediatric patients typically within 2 weeks of initiation of the treatment. MR imaging of the optic nerves and pituitary gland may suggest the diagnosis of raised intracranial tension (ICT) such as flattening of the posterior sclera, swelling of the periorbital subarachnoid space, vertical tortuosity, and elongation of the optic nerve, squashed pituitary gland or empty sella. However, these changes are visible only after few days of starting of clinical signs of raised ICT.

CONCLUSIONS
A strong clinical suspicion is indispensable to stop ATRA at the onset of neurotoxicity to prevent long-term complications. Furthermore, the decision to reinstitute ATRA should be taken at the right time to increase the chances of attaining CR.

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REFERENCES


