

## A Case of severe symptomatic hyponatremia after post-transplantation cyclophosphamide

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**Background:** Cyclophosphamide (CY) is an alkylating agent which has been widely used in the treatment of malignant or rheumatological diseases. High-dose CY is recently used for the prevention of graft-versus-host disease (GVHD) after allogeneic hematopoietic cell transplantation (HCT). Hyponatremia is one of less well-known side effects of CY. Particularly, symptomatic hyponatremia is very rare. Herein, we report a rare case of post-transplantation CY-induced severe symptomatic hyponatremia.

**Case report:** A 64-year old woman who was diagnosed with therapy-related myelodysplastic syndrome (MDS) and treated with 3 cycles of azacytidine achieved marrow complete remission and was admitted for allogeneic HCT from a matched sibling donor. She had a history of breast cancer treated with breast-conserving surgery and adjuvant chemotherapy and was taking a tricyclic antidepressant for a depressive mood disorder. Peripheral-blood stem cells (PBSC) were infused after reduced-intensity conditioning consisting of 2-days of busulfan and fludarabine, and high-dose CY (50 mg/kg) was administered on day 3 for prevention of GVHD. She was found stupor 16 hours after CY infusion. Laboratory tests showed a rapid decrease in serum Na of 115 mmol/L from 130 mmol/L which was observed 3 hour after CY infusion. Her serum and urine osmolality was 235 and 223 mOsm/kg, and urine Na was 106 mmol/L, respectively. She was euvolemic and her thyroid function was within normal range. There was no abnormal finding on computed tomography and magnetic resonance imaging of her brain. We withheld a second dose of CY on day 4 and started a hypertonic saline solution with 3% NaCl for treatment of symptomatic hyponatremia. Her serum Na gradually improved to 133 mmol/L after 21 hours of treatment, and her mental state was fully recovered without a neurological deficit.

**Discussion:** We report a rare case of symptomatic hyponatremia that occurred after post-transplantation CY in a patient with MDS. Clinicians should consider the possibility of mental deterioration associated with CY-induced hyponatremia and monitoring of serum electrolytes and appropriate correction is required.

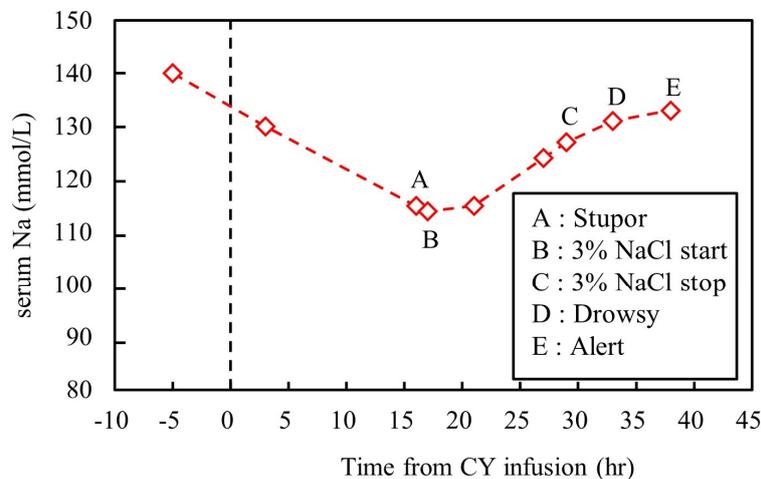


Figure 1. Clinical course of post-transplantation CY induced symptomatic hyponatremia in a 64-year-old woman with therapy-related MDS