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A Cases of Chemotherapy Induced Myelodysplastic Syndrome in Patients with Primary Solid Tumors

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Introduction

Therapy induced myelodysplastic syndrome (MDS) is a rare, even-though well-established fatal adverse event caused by either chemotherapy or radiotherapy in patients with malignant disease [1]. MDS is characterized with poor prognosis mainly due to the poor bone marrow reserve from prior chemo/radiotherapy [2, 3].

Objective

To stress the importance of documenting as well as monitoring myelodysplastic syndrome as adverse drug event that arise from chemo/radiotherapy in patients with solid tumors that must be considered by clinicians when developing treatment plan for these patients.

Methods

We present two cases with different cancer diagnosis. The first one is a male patient with small cell lung cancer (SCLC) treated with combination of six cycles paclitaxel/carboplatin and radiotherapy (44Gy). The second one, is a female patient with a primary, stage IIIC breast cancer, treated with four cycles of epirubicin/cyclophosphamide, four cycles of docetaxel and loco-regional radiotherapy (50Gy) in a period of three years. Additionally, the patient received adjuvant hormonal therapy (anostrozole) for 10 years.

Results

After the chemotherapy, the first male patient (64 years) recovered on clinical radiographic evaluation with complete remission of the disease, without signs of infiltration of the lung with malignant disease. 7-years later, the patient was admitted at the Clinic of Hematology, with complaints of fatigue, prostration and increased sweating. Bone marrow biopsy revealed findings of secondary myelodysplasia, namely signs of hematopoietic cells dis-maturation with signs of megaloblastic maturation of the erythropoietic lineage, appearance of ALIP in the myeloid lineage and dysplastic megakaryocytes. In addition, it was found an increased level of polyclonal plasmacytes. Two cycles of treatment with ABVD D1C1 and ABL D1D2 was applied and clinical improvement was registered. The second female patient (67 years) developed refractory anemia with excess blasts in transformation (RAEB-T), a severe subtype of MDS further confirmed on bone marrow biopsy as acute myelomonocytic leukemia, after 10 years of the initial diagnosis. The patient was started on 6 cycles with azacitidine, after which she was hospitalized with low platelets ($6x10^3$/ml) and white blood cell counts ($1.3x10^3$/mL) and hemorrhagic syndrome.

Conclusion

Patients that are under long-term chemo- and radiotherapy treatment must be followed-up carefully. Additional data is essential to be assessed to identify patient characteristics that can be associated with this fatal adverse event. Briefly, post-chemotherapy, it is desired to examine when there are clinical signs of fatigue, infections or bruising as possible presentation of MDS. This can assist clinicians in creation of the treatment plan in terms of choosing alternate therapy choices when applicable.

References

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